



In cooperation with Oakland County, Michigan

Water Resources Data, Oakland County, Michigan 2001-2004

Open File Report 2004-1417

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By S.S. Aichele, S.L.Crowley, C.K.Taricska, J. Stopar

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**U.S. Department of the Interior
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Contents

Introduction	1
Methods	1
Monitoring.....	1
Streamflow.....	1
Ground-Water Levels	3
Continuous Stream Water Quality	4
Synoptic Water Quality	5
Stream Water Quality	5
Lake Water Quality	8
Ecological Assessment	8
References Cited	9

Figures

1-5 Maps showing:

1. Locations of continuous streamflow gages in and around Oakland County, Michigan	2
2. Locations of ground-water monitoring wells in Oakland County, Michigan	3
3. Locations of continuous stream water-quality monitoring stations in Oakland County, Michigan	4
4. Locations of stream water-quality sampling sites in and around Oakland County, Michigan	5
5. Locations of lake water-quality sampling sites in Oakland County, Michigan	8

Tables

1. Station number, name, and location of streamflow gages in and around Oakland County, Michigan	2
2. Station number, name, and location of ground-water monitoring wells in Oakland County, Michigan	3
3. Station number, name, and location of stream-water-quality monitoring stations in Oakland County, Michigan.	4
4. Station number, name, and location of stream-water-quality sampling sites in and around Oakland County, Michigan.	6
5. Water-quality characteristics and analytical methods for inorganic stream-water-quality samples collected in Oakland County, Michigan during 2001, 2002, and 2003.	7
6. Station number, name, and location of lake-water-quality sampling sites in Oakland County, Michigan	9

7. Daily mean and maximum depth, in feet, of water below the land surface in four monitoring wells in Oakland County, Michigan, June 2001-March 2004	11
8. Measured depth, in feet, to water in monitoring well 424133083293201, Oakland County, Michigan	34
9. Results of synoptic stream-water-quality sample analysis in Oakland County, Michigan between September 2001 and September 2003	35
10. Results of analysis for selected organic compounds in surface water at selected sites in Oakland County, Michigan in August, 2002 and September, 2003	60
11. Vertical profiles of field-measured characteristics of selected lake-water-quality sites in Oakland County, Michigan measured during 2002 and 2003	66
12. Results of chemical-water-quality analyses for selected parameters at selected lakes in Oakland County, Michigan, 2002 - 2003	71
13. Results of ecological assessment at selected stream channel locations in Oakland County, Michigan, September 2003	75

Conversion Factors and Datum

Multiply	By	To obtain
Length		
inch (in.)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
yard (yd)	0.9144	meter (m)
Area		
acre	4,047	square meter (m ²)
section (640 acres or 1 square mile)	259.0	square hectometer (hm ²)
square mile (mi ²)	259.0	hectare (ha)
square mile (mi ²)	2.590	square kilometer (km ²)
Volume		
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m ³ /s)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:
 $^{\circ}\text{F}=(1.8 \times ^{\circ}\text{C})+32$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83). Altitude, as used in this report, refers to distance above the vertical datum.

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius ($\mu\text{S}/\text{cm}$ at 25 °C). Concentrations of chemical constituents in water are given either in milligrams per liter (mg/L) or micrograms per liter ($\mu\text{g}/\text{L}$).

Water Resources Data for Oakland County, Michigan 2001-2004

By S.S. Aichele, S.L. Crowley, C.K. Taricska, and J. Stopar

Introduction

The U.S. Geological Survey (USGS), in cooperation with Oakland County, the Huron-Clinton Metropark Authority, the Michigan Department of Environmental Quality (MDEQ), and the Rouge Program Office, collected streamflow, water-quality, and ground-water-level data in watersheds across Oakland County during water years 2001, 2002, 2003, and 2004. Water years begin October 1 and end September 30.

This report presents water resources data used to produce a series of interpretive reports on the quantity and quality of water in Oakland County for Oakland County, Michigan. Some of these data have been published elsewhere, but are provided here in one report. This report has two main sections. The first section provides an overview of the methods used to collect the various types of data. The second section is a series of data tables containing ground-water-level data, synoptically measured stream-water-quality data, synoptically measured lake-water-quality data, and the results of a macroinvertebrate and habitat assessment.

Methods

Data collection activities in Oakland County during water years 2001-2004 can be divided into two general classes: routine monitoring and synoptic water-quality measurement. Routine monitoring activities were carried out in conjunction with ongoing Federal and State monitoring programs, using methods appropriate to those programs. Surface-water monitoring data are available in the USGS Michigan District Annual Data

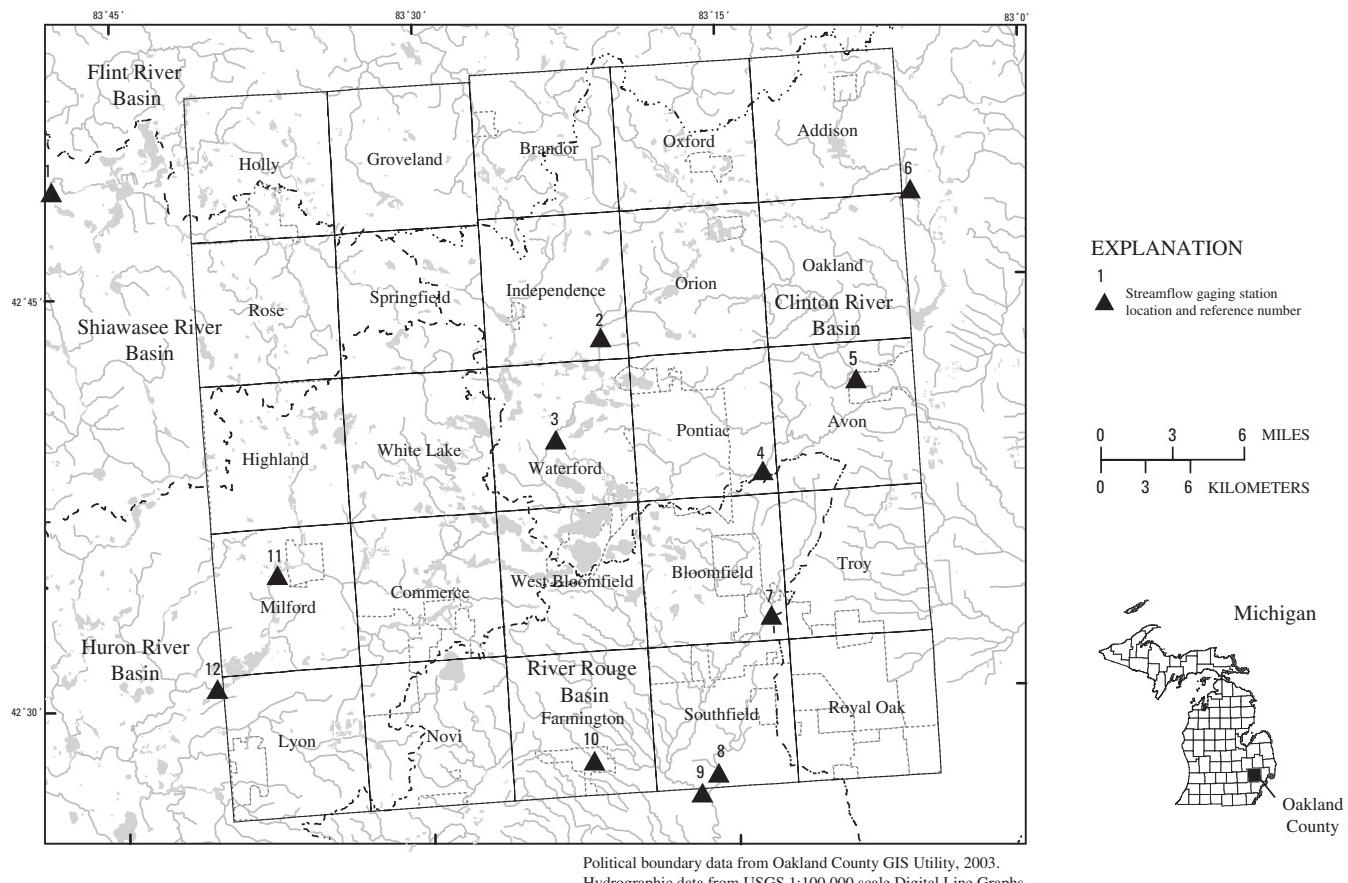
Report (Blumer and others, 2002; 2003; 2004) from the appropriate year. Ground-water monitoring data are provided in this volume. More detailed discussion of monitoring protocols can also be found in the Annual Data Reports and in Wagner and others (2000).

Monitoring

Continuous monitoring activities in this project involved monitoring streamflow at 12 stations in and around Oakland County, monitoring temperature and specific conductance of stream water at 7 stations, and monitoring ground-water levels in 5 wells.

Streamflow

Continuous measurements of stream stage were made at streamflow-gaging stations in and around the county. Figure 1 shows the locations of these stations, and table 1 presents the station location information. Streamflow was calculated using site-specific stage-discharge ratings in accordance with standard USGS procedures described in Rantz and others (1982). The majority of these stations are maintained as part of ongoing Federal, State, and county monitoring activities. USGS streamflow stations 04143900 (Shiawassee River near Linden, Mich.) and 04161000 (Clinton River at Auburn Hills, Mich.) were operated from June 2001 through September 2003 specifically for this project. During the period from October 1, 2002 to September 30, 2003 only stage data was collected for station 04161000. Streamflow data are available in the USGS Michigan District Annual Data Report and online at <http://mi.water.usgs.gov>.



Political boundary data from Oakland County GIS Utility, 2003.
Hydrographic data from USGS 1:100,000 scale Digital Line Graphs.

Figure 1. Locations of continuous streamflow gages in and around Oakland County, Michigan.
(Station information can be obtained by crossreferencing the number in this figure to table 1 of this report.)

Table 1. Station number, name, and location of streamflow gages in and around Oakland County, Michigan.

[Reference number corresponds to number on figure 1 of this report]

Reference number	Station number	Station name	Latitude	Longitude	Drainage area (square miles)
1	04143900	Shiawassee River at Linden, Mich.	42°48'57" N	83°48'07" W	83.7
2	04160800	Sashabaw Creek near Drayton Plains, Mich.	42°43'12" N	83°21'13" W	20.9
3	04160900	Clinton River Near Drayton Plains, Mich.	42°39'37" N	83°23'25" W	79.2
4	04161000	Clinton River at Auburn Hills, Mich.	42°38'00" N	83°13'28" W	123.0
5	04161540	Paint Creek at Rochester, Mich.	42°41'18" N	83°08'35" W	70.9
6	04166000	River Rouge at Birmingham, Mich.	42°32'45" N	83°13'25" W	33.3
7	04166100	River Rouge at Southfield, Mich.	42°26'52" N	83°17'52" W	87.9
8	04161580	Stony Creek near Romeo, Mich.	42°48'03" N	83°05'25" W	25.6
9	04166200	Evans Ditch at Southfield, Mich.	42°27'28" N	83°16'03" W	9.5
10	04166300	Upper River Rouge at Farmington, Mich.	42°27'52" N	83°22'11" W	17.5
11	04170000	Huron River at Milford, Mich.	42°34'44" N	83°37'36" W	132.0
12	04170500	Huron River near New Hudson, Mich.	42°30'45" N	83°40'35" W	148.0

Ground-Water Levels

Ground-water levels were monitored in five wells in the western part of Oakland County. Figure 2 shows locations of these monitoring wells and table 2 presents the well location information. Four wells were instrumented with pressure transducers and electronic data loggers, recording water levels every hour. The fifth

well was monitored periodically, using an electric tape. Water-level measurements are reported in depth below land surface datum (LSD). Water levels are reported as both daily mean and maximum in table 7. Measurements made at well 424133083293201 are presented in table 8. These data also are available in the USGS Michigan District Annual Data Report and online at <http://mi.water.usgs.gov>.

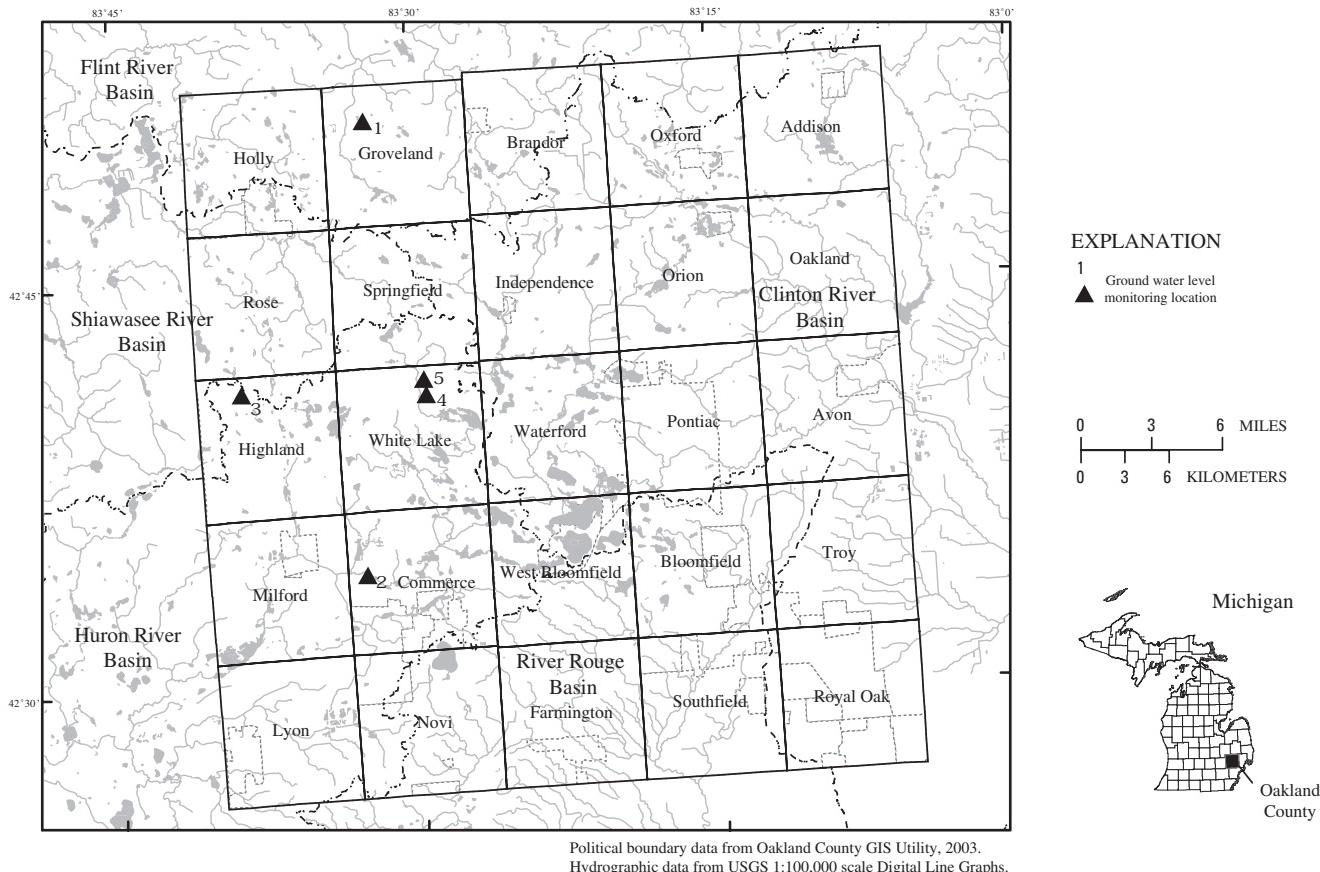


Figure 2. Locations of ground-water monitoring wells in Oakland County, Michigan.
(Station names can be obtained by cross referencing the number in this figure to table 2 of this report.)

Table 2. Station number, name, and location of ground-water monitoring wells in Oakland County, Michigan.

[Reference number corresponds to number on figure 2 of this report]

Reference number	Station number	Station name	Longitude	Latitude	Well depth, in feet
1	425116083321501	Holly State Recreation Area	42°51'09" N	83°32'15" W	42
2	423423083324001	Proud Lake State Recreation Area	42°34'23" N	83°32'40" W	45
3	424109083384301	Fish Lake Road	42°41'09" N	83°38'44" W	49
4	424133083293101	Teggerdine Road	42°41'00" N	83°29'29" W	175
5	424133083293201	White Lake Road	42°41'34" N	83°29'33" W	163

Continuous Stream Water Quality

Stream temperature and specific conductance were monitored continuously at seven stations around Oakland County, in collaboration with other monitoring programs. Monitoring was performed in accordance with standard USGS procedures as described in Wagner and

others (2000). Figure 3 shows the locations of these continuous stream water-quality monitoring stations in Oakland County, and table 3 presents the station location information. These data are available in the USGS Michigan District Annual Data Report and online at <http://mi.water.usgs.gov>.

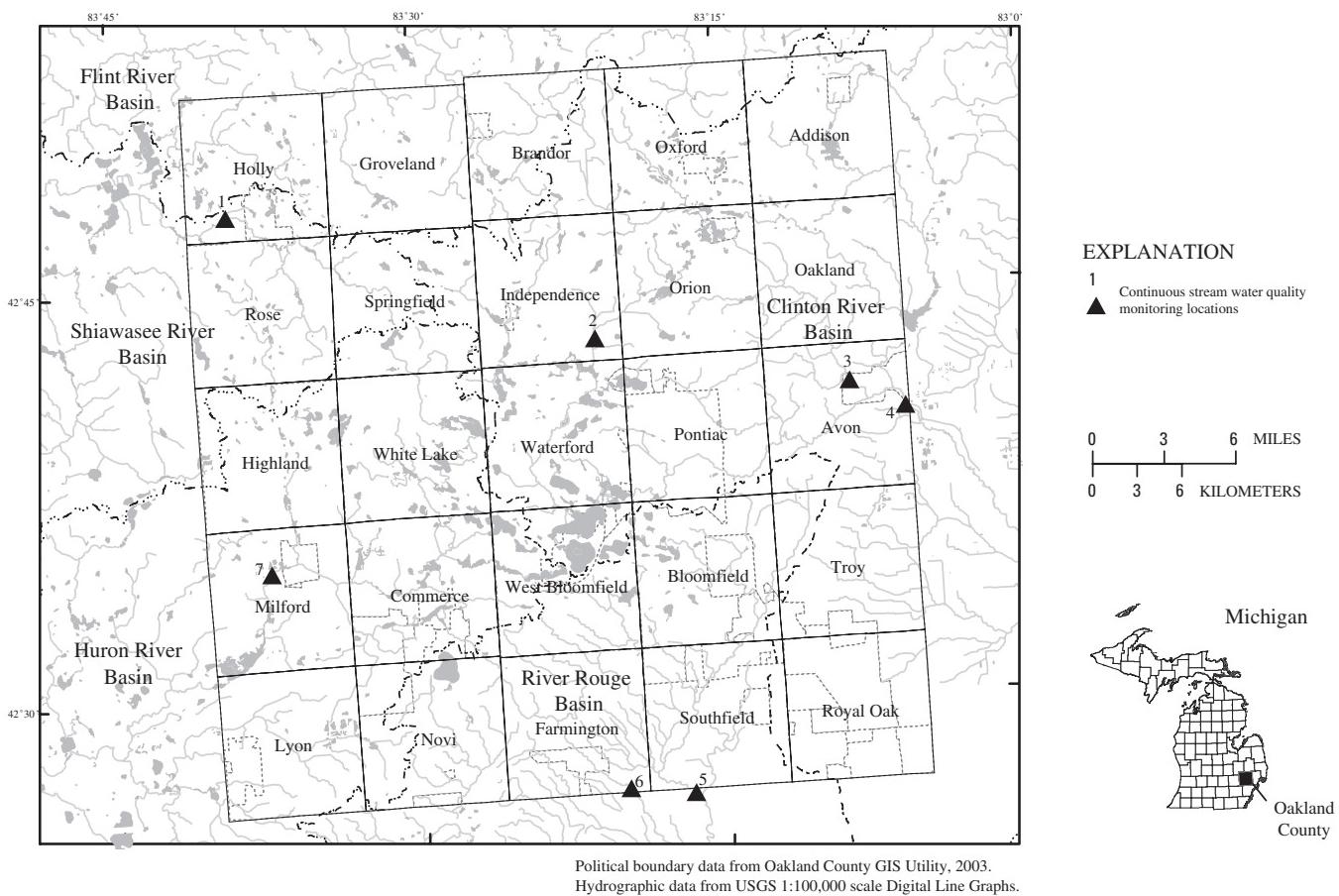


Figure 3. Locations of continuous stream-water-quality monitoring stations in Oakland County, Michigan. (Station information can be obtained by cross referencing the number in this figure to table 3 of this report.)

Table 3. Station number, name, and location of stream water-quality monitoring stations in Oakland County, Michigan.

[Reference number corresponds to number on figure 3 of this report]

Reference number	Station number	Station name	Latitude	Longitude	Drainage area (square miles)
1	04143830	Shiawassee River at Holly, Mich.	42°47'57" N	83°38'52" W	49.2
2	04160800	Sashabaw Creek near Drayton Plains, Mich.	42°43'12" N	83°21'13" W	20.9
3	04161540	Paint Creek at Rochester, Mich.	42°41'18" N	83°08'35" W	70.9
4	04161810	Clinton River at Yates, Mich.	42°40'18" N	83°05'47" W	299.0
5	04166100	River Rouge at Southfield, Mich.	42°26'52" N	83°17'52" W	87.9
6	04166315	Upper River Rouge at Clarenceville, Mich.	42°26'48" N	83°20'12" W	19.8
7	04170000	Huron River at Milford, Mich.	42°34'44" N	83°37'36" W	132.0

Synoptic Water Quality

Synoptic water-quality samples were collected from 14 sites across Oakland County, 11 of which coincided with streamflow-gaging stations and 2 of which coincided with stream-water-quality monitoring stations in Oakland County from September 2001 through September 2003. During the summers of 2002 and 2003, water-quality samples were also collected from 12 lake basins.

Stream Water Quality

The USGS collected 193 synoptic water-quality samples at 14 stream sites across Oakland County during the period from September, 2001 through September, 2003. A map showing the location of these sites is shown in figure 4, while table 4 presents a listing of these sites with station number and location information. Results of inorganic and microbial analysis are presented in table 9. Results of inorganic analysis are presented in table 10.

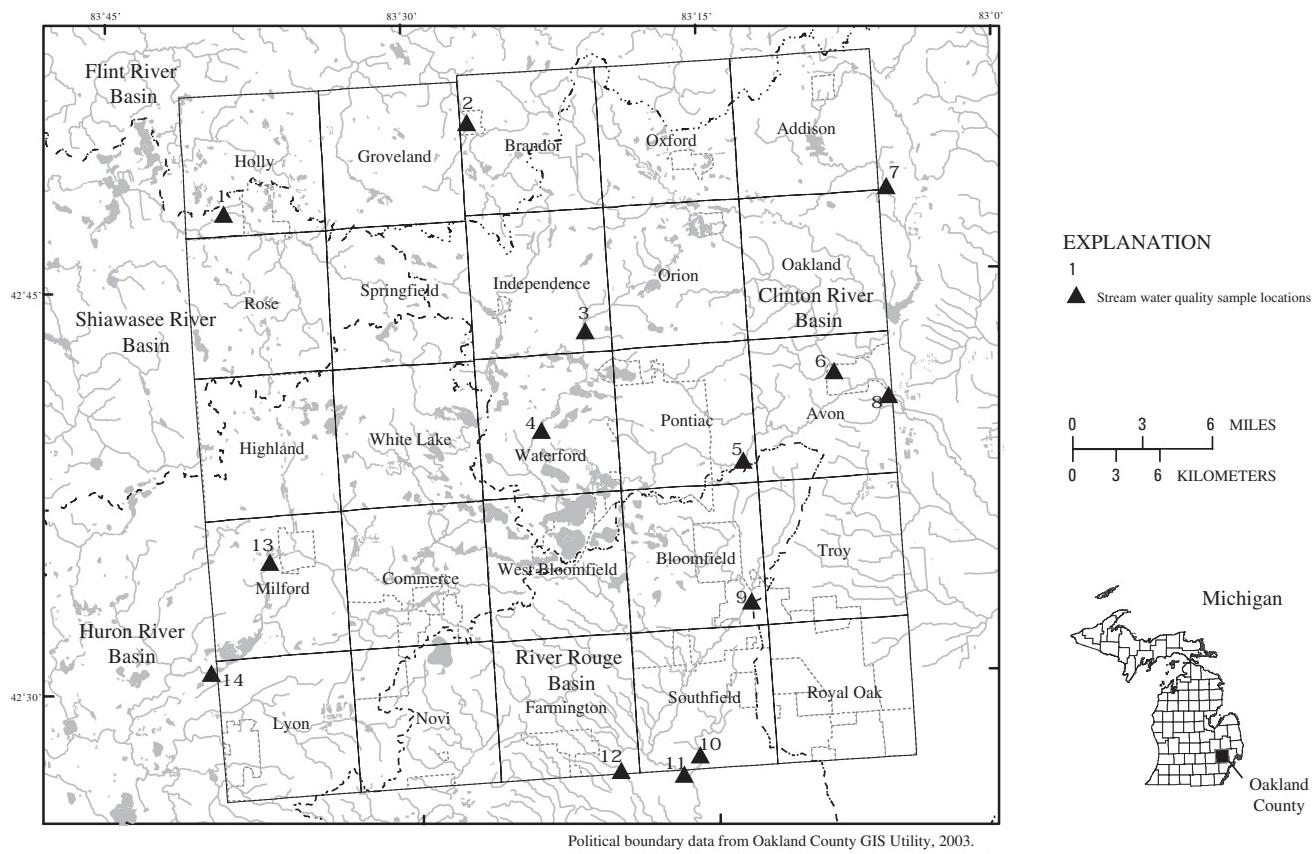


Figure 4. Locations of stream water-quality sampling sites in and around Oakland County, Michigan. (Site information can be obtained by cross referencing the number in the figure to table 4 of this report)

6 Water Resources Data, Oakland County, Michigan 2001-2004

Table 4. Station number, name, and location of water-quality sampling sites in and around Oakland County, Mich.

[Reference number corresponds to number in figure 4 of this report]

Reference number	Site number	Site name	Latitude	Longitude	Drainage area (square miles)
1	04143830	Shiawassee River at Holly, Mich.	42°47'57" N	83°38'52" W	49.2
2	04148035	Kearsley Creek at Mill Street at Ortonville, Mich.	42°51'08" N	83°26'47" W	19.6
3	04160800	Sashabaw Creek near Drayton Plains, Mich.	42°43'12" N	83°21'13" W	20.9
4	04160900	Clinton River near Drayton Plains, Mich.	42°39'37" N	83°23'25" W	79.2
5	04161000	Clinton River at Auburn Hills, Mich.	42°38'00" N	83°13'28" W	123.0
6	04161540	Paint Creek at Rochester, Mich.	42°41'18" N	83°08'35" W	70.9
7	04161810	Clinton River at Yates, Mich.	42°40'18" N	83°05'47" W	299.0
8	04166000	River Rouge at Birmingham, Mich.	42°32'45" N	83°13'25" W	33.3
9	04166100	River Rouge at Southfield, Mich.	42°26'52" N	83°17'52" W	87.9
10	04161580	Stony Creek near Romeo, Mich.	42°48'03" N	83°05'25" W	25.6
11	04166200	Evans Ditch at Southfield, Mich.	42°27'28" N	83°16'03" W	9.5
12	04166315	Upper River Rouge at Clarenceville, Mich.	42°26'48" N	83°20'12" W	19.8
13	04170000	Huron River at Milford, Mich.	42°34'44" N	83°37'36" W	132.0
14	04170500	Huron River near New Hudson, Mich.	42°30'45" N	83°40'35" W	148.0

Inorganic stream-water-quality samples were collected as depth and width integrated (DWI) samples using a DH-81 sampler as described in Wilde and others (1999). Streamflow was computed from stage-discharge ratings at all sites except 04143830, 04148035, and 04166315. At these three sites, streamflow measurements were made in accordance with standard

USGS procedures, as outlined in Rantz and others (1982). All samples were collected and handled in accordance with the procedures described in Wilde and others (2003) Wilde and others (1999), and Wilde and others (2004). A table of the parameters analyzed, the reporting level, and analytical methods is included in table 5.

Table 5. Water-quality characteristics and analytical methods for inorganic stream water-quality samples collected in Oakland County, Michigan during 2001, 2002, and 2003

[MRL, Minimum Reporting Level; mg/L, milligrams per liter; µg/L, micrograms per liter; µs/cm, microsiemens per centimeter at 25 degrees Celsius]

Parameter code	Characteristic	Units	MRL	Method	Reference
403	pH, laboratory	standard units	0.1	I258785	Fishman and Friedman, 1989
530	Residue, total	mg/L	1.0	I376585	Fishman and Friedman, 1989
608	Nitrogen, ammonia	mg/L as N	0.02	I252290	Fishman, 1993
613	Nitrogen, nitrite	mg/L as N	0.01	I254090	Fishman, 1993
623	Nitrogen, ammonia & organic	mg/L as N	0.1	I261091	Patton and Truitt, 1992
625	Nitrogen, ammonia & organic	mg/L as N	0.1	I451591	Patton and Truitt, 2000
631	NO ₂ + NO ₃ , dissolved	mg/L as N	0.05	I254590	Fishman, 1993
665	Phosphorus, total	mg/L as P	0.05	I461091	Patton and Truitt, 1992
666	Phosphorus, dissolved	mg/L as P	0.004	EPA365.1	U.S. Environmental Protection Agency, 1994
671	Phosphorus, orthophosphate	mg/L as P	0.01	I260190	Fishman, 1993
915	Calcium, dissolved	mg/L as Ca	0.02	I147287	Fishman and Friedman, 1989
925	Magnesium, dissolved	mg/L as Mg	0.004	I147287	Fishman, 1993
930	Sodium, dissolved	mg/L as Na	0.06	I147287	Fishman, 1993
935	Potassium, dissolved	mg/L as K	0.1	I163085	Fishman and Friedman, 1989
940	Chloride, dissolved	mg/L as Cl	0.1	I205785	Fishman and Friedman, 1989
945	Sulfate, dissolved	mg/L as SO ₄	0.1	I205785	Fishman and Friedman, 1989
950	Fluoride, dissolved	mg/L as F	0.1	I232785	Fishman and Friedman, 1989
955	Silica, dissolved	mg/L as SiO ₂	0.1	I270085	Fishman and Friedman, 1989
1046	Iron, dissolved	µg/L	6.0	I147287	Fishman, 1993
1056	Manganese, dissolved	µg/L	0.6	I147287	Fishman, 1993
39086	Alkalinity, dissolved	mg/L as CaCO ₃	1.0	I203085	Fishman and Friedman, 1989
70300	Dissolved solids, residue at 180°C	mg/L	10.0	I175085	Fishman and Friedman, 1989
90095	Specific conductance	ms/cm	1.0	I278185	Fishman and Friedman, 1989
90410	Acid neutralizing capacity	mg/L as CaCO ₃	1.0	I203085	Fishman and Friedman, 1989

Dissolved oxygen, specific conductance, temperature, pH, and alkalinity were measured in the field with a Hydrolab H20 multiparameter probe and individual probes. Escherichia coli were cultured in the field on several occasions using membrane thermotolerant Escherichia coli (mTEC) media (Myers and Sylvester, 1997).

Organic stream-water-quality samples were collected as grab samples in baked 1-L amber glass bottles and chilled for shipment to the USGS National Water Quality Laboratory in Denver, Colo. Analyses for specific organic contaminants listed were performed as described in Zaugg and others (2002).

Lake Water Quality

Synoptic lake-water-quality samples were collected from 12 lake basins in Oakland County during the summers of 2002 and 2003. Sample locations are shown in figure 5. Location information is presented in table 6. Sampling was conducted in late summer, during the period of maximum thermal stratification of lakes. Additional spring samples were collected at several sites. Samples were collected at a depth of three feet below the

water surface; three feet above the lake bed; at the thermocline, if present; and throughout the water column. These depths are identical to the stratified sample collected by the USGS in cooperation with the Michigan Department of Environmental Quality Lake Water Quality Assessment program (Minnerick, written communication, 2004). All analyses were conducted by the USGS National Water Quality Laboratory in Denver, Colo. Vertical profile data are presented in table 11. Chemical water-quality data are presented in table 12.

Ecological Assessment

During August and September 2003, the USGS conducted ecological assessments of the 14 sites where synoptic water-chemistry samples were collected (figure 4 and table 4). These ecological assessments included habitat assessment, as well as collection and identification of macro-invertebrates. These assessments were carried out in accordance with the Great Lakes and Ecological Assessment Section (GLEAS) Procedure 51 used by the Michigan Department of Environmental Quality (MDEQ; 2002). These data are presented in table 13.

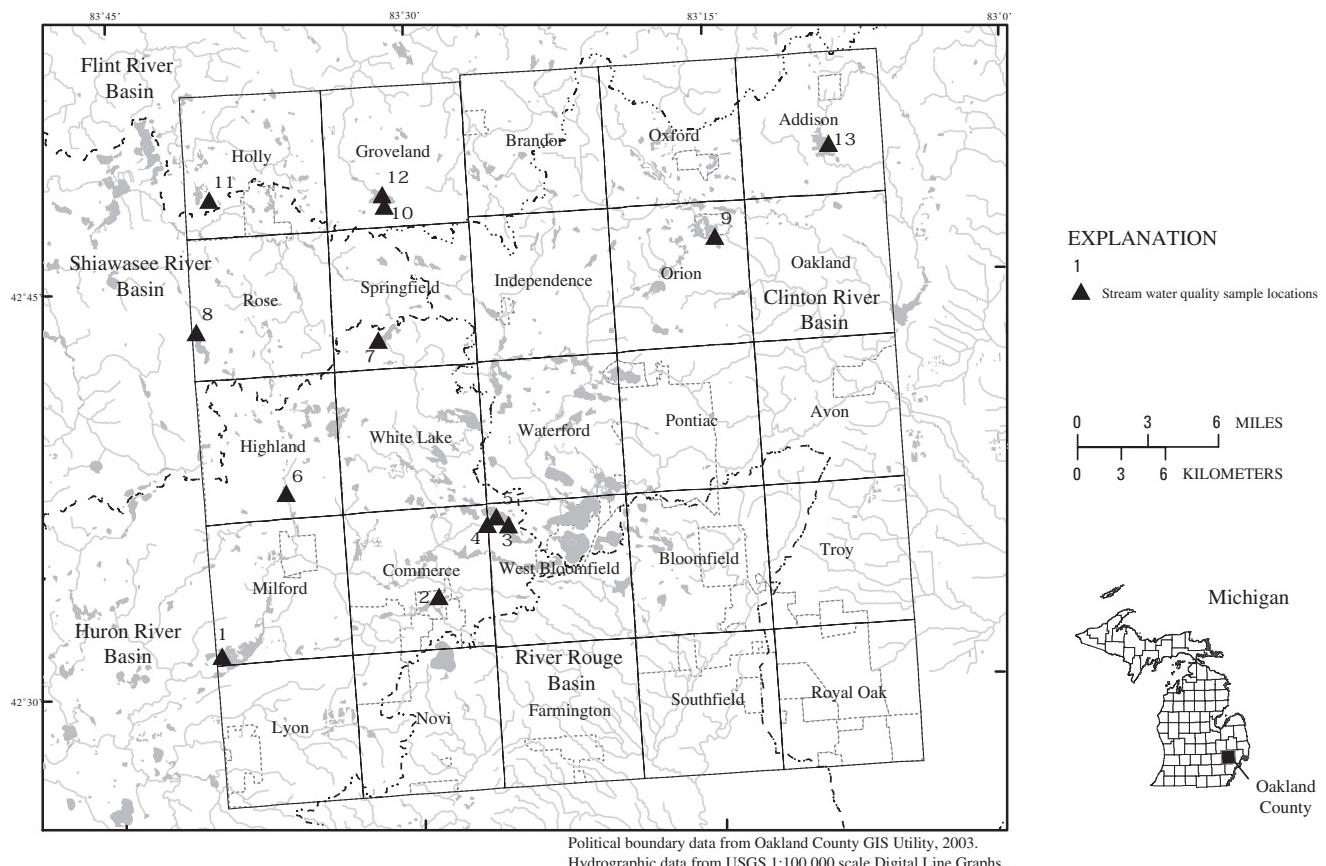


Figure 5. Locations of lake water-quality sampling sites in Oakland County, Michigan.
(Station names can be obtained by cross referencing the number in this figure to table 6 of this report.)

Table 6. Site number, name, and location of lake water-quality monitoring sites in Oakland County, Mich.

[Reference number corresponds to number on figure 5 of this report]

Reference number	Site number	Site name	Latitude	Longitude
1	423133083400101	Kent Lake near New Hudson, Mich.	42°31'33" N	83°40'01" W
2	423332083290301	Wolverine Lake near Oakley Park, Mich.	42°33'32" N	83°29'03" W
3	423607083252601	Union Lake at Union Lake, Mich. (southeast basin)	42°36'07" N	83°25'26" W
4	423609083263001	Union Lake at Union Lake, Mich. (southwest basin)	42°36'09" N	83°26'30" W
5	423626083260201	Union Lake at Union Lake, Mich. (central basin)	42°36'26" N	83°26'02" W
6	423730083363401	Lower Pettibone Lake near Highland, Mich.	42°37'30" N	83°36'34" W
7	424306083314201	Big Lake at Andersonville, Mich.	42°43'06" N	83°31'42" W
8	424335083405201	Tipsico Lake near Rose Center, Mich.	42°43'35" N	83°40'52" W
9	424634083143601	Lake Orion near Lake Orion, Mich.	42°46'34" N	83°14'36" W
10	424804083311301	Valley Lake near Davisburg, Mich.	42°48'04" N	83°31'13" W
11	424828083400201	Dickinson Lake near Holly, Mich.	42°48'28" N	83°40'02" W
12	424830083311801	Heron Lake near Holly, Mich.	42°48'30" N	83°31'18" W
13	424952083084301	Lakeville Lake near Lakeville, Mich.	42°49'52" N	83°08'43" W

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Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2001	6	1	--	--	--	--	34.71	34.72	--	--
2001	6	2	--	--	--	--	34.69	34.70	--	--
2001	6	3	--	--	--	--	34.69	34.69	--	--
2001	6	4	--	--	--	--	34.68	34.69	--	--
2001	6	5	--	--	--	--	34.66	34.68	--	--
2001	6	6	--	--	--	--	34.65	34.66	--	--
2001	6	7	--	--	--	--	34.64	34.65	--	--
2001	6	8	--	--	--	--	34.63	34.64	28.72	28.76
2001	6	9	--	--	--	--	34.62	34.62	28.74	28.76
2001	6	10	--	--	--	--	34.61	34.61	28.75	28.76
2001	6	11	--	--	--	--	34.60	34.60	28.75	28.76
2001	6	12	--	--	--	--	34.59	34.60	28.77	28.78
2001	6	13	--	--	--	--	34.58	34.59	28.80	28.81
2001	6	14	25.98	26.02	--	--	34.58	34.58	28.83	28.85
2001	6	15	26.01	26.02	--	--	34.57	34.58	28.85	28.87
2001	6	16	26.04	26.07	--	--	34.58	34.58	28.88	28.89
2001	6	17	26.09	26.16	--	--	34.57	34.58	28.91	28.93
2001	6	18	26.11	26.13	--	--	34.56	34.57	28.93	28.95
2001	6	19	26.13	26.19	--	--	34.56	34.56	28.95	28.97
2001	6	20	26.18	26.21	--	--	34.55	34.56	28.98	29.00
2001	6	21	26.16	26.19	--	--	34.55	34.55	29.00	29.01
2001	6	22	26.02	26.06	--	--	34.54	34.54	28.94	28.95
2001	6	23	26.02	26.04	--	--	34.53	34.54	28.95	28.98
2001	6	24	26.07	26.12	--	--	34.53	34.53	28.99	29.01
2001	6	25	26.12	26.16	--	--	34.52	34.52	29.02	29.04
2001	6	26	26.15	26.18	--	--	34.51	34.52	29.05	29.07
2001	6	27	26.19	26.22	--	--	34.50	34.51	29.07	29.09
2001	6	28	26.23	26.25	--	--	34.49	34.50	29.09	29.10
2001	6	29	26.26	26.32	--	--	34.48	34.49	29.11	29.13
2001	6	30	26.32	26.36	--	--	34.47	34.48	29.13	29.16
2001	7	1	26.38	26.43	--	--	34.47	34.47	29.18	29.22
2001	7	2	26.42	26.44	--	--	34.46	34.47	29.22	29.23
2001	7	3	26.41	26.43	--	--	34.45	34.46	29.23	29.26
2001	7	4	26.44	26.50	--	--	34.44	34.45	29.22	29.24
2001	7	5	26.50	26.54	--	--	34.44	34.44	29.25	29.27
2001	7	6	26.54	26.56	--	--	34.43	34.44	29.28	29.30
2001	7	7	26.55	26.57	--	--	34.43	34.43	29.29	29.32
2001	7	8	26.59	26.64	--	--	34.42	34.42	29.30	29.33
2001	7	9	26.63	26.68	--	--	34.41	34.42	29.33	29.35
2001	7	10	26.67	26.72	--	--	34.41	34.42	29.35	29.40
2001	7	11	26.73	26.78	--	--	34.41	34.42	29.40	29.42
2001	7	12	26.80	26.87	--	--	34.42	34.42	29.44	29.46
2001	7	13	26.85	26.88	--	--	34.42	34.42	29.46	29.48
2001	7	14	26.87	26.88	--	--	34.41	34.42	29.47	29.49
2001	7	15	26.91	26.98	--	--	34.41	34.41	29.51	29.53
2001	7	16	26.96	27.02	--	--	34.41	34.41	29.54	29.57

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2001	7	17	26.97	26.99	--	--	34.41	34.41	29.57	29.60
2001	7	18	26.96	26.97	--	--	34.42	34.42	29.60	29.63
2001	7	19	26.97	27.03	--	--	34.42	34.43	29.63	29.66
2001	7	20	27.00	27.07	--	--	34.43	34.43	29.67	29.69
2001	7	21	27.02	27.04	--	--	34.42	34.43	29.69	29.70
2001	7	22	27.05	27.08	--	--	34.42	34.42	29.71	29.73
2001	7	23	27.07	27.13	--	--	34.42	34.42	29.74	29.75
2001	7	24	27.11	27.15	--	--	34.43	34.43	29.76	29.79
2001	7	25	27.15	27.16	--	--	34.44	34.44	29.80	29.80
2001	7	26	27.17	27.24	--	--	34.45	34.46	29.81	29.83
2001	7	27	27.18	27.20	--	--	34.46	34.47	29.83	29.84
2001	7	28	27.19	27.21	--	--	34.46	34.46	29.84	29.85
2001	7	29	27.22	27.25	--	--	34.45	34.46	29.86	29.88
2001	7	30	27.26	27.28	--	--	34.46	34.47	29.88	29.89
2001	7	31	27.29	27.34	--	--	34.47	34.48	29.90	29.91
2001	8	1	27.34	27.41	--	--	34.48	34.48	29.93	29.94
2001	8	2	27.36	27.40	--	--	34.47	34.48	29.94	29.95
2001	8	3	27.38	27.41	--	--	34.47	34.47	29.95	29.96
2001	8	4	27.43	27.47	--	--	34.47	34.47	29.97	29.99
2001	8	5	27.48	27.53	--	--	34.48	34.48	30.01	30.02
2001	8	6	27.51	27.54	--	--	34.48	34.48	30.03	30.03
2001	8	7	27.53	27.55	--	--	34.48	34.48	30.06	30.07
2001	8	8	27.56	27.62	--	--	34.48	34.49	30.08	30.09
2001	8	9	27.60	27.64	--	--	34.48	34.49	30.11	30.12
2001	8	10	27.63	27.66	--	--	34.50	34.51	30.14	30.15
2001	8	11	27.66	27.68	--	--	34.51	34.51	30.16	30.16
2001	8	12	27.69	27.76	--	--	34.51	34.52	30.19	30.19
2001	8	13	27.71	27.75	--	--	34.52	34.53	30.21	30.22
2001	8	14	27.74	27.79	--	--	34.54	34.54	30.24	30.23
2001	8	15	27.75	27.78	--	--	34.54	34.54	30.25	30.24
2001	8	16	27.74	27.76	--	--	34.54	34.55	30.24	30.25
2001	8	17	27.73	27.74	--	--	34.55	34.56	30.22	30.21
2001	8	18	27.69	27.71	5.61	5.65	34.56	34.56	30.20	30.20
2001	8	19	27.65	27.66	5.52	5.56	34.55	34.56	30.15	30.18
2001	8	20	27.63	27.64	5.49	5.50	34.57	34.58	30.12	30.12
2001	8	21	27.62	27.62	5.50	5.52	34.58	34.59	30.11	30.11
2001	8	22	27.61	27.63	5.48	5.52	34.59	34.59	30.10	30.11
2001	8	23	27.59	27.61	5.47	5.48	34.59	34.60	30.07	30.07
2001	8	24	27.60	27.63	5.48	5.49	34.61	34.61	30.07	30.06
2001	8	25	27.60	27.61	5.49	5.49	34.61	34.61	30.05	30.06
2001	8	26	27.61	27.64	5.48	5.50	34.62	34.62	30.04	30.04
2001	8	27	27.63	27.65	5.48	5.49	34.62	34.63	30.05	30.04
2001	8	28	27.67	27.70	5.51	5.54	34.64	34.65	30.07	30.10
2001	8	29	27.70	27.72	5.55	5.56	34.65	34.65	30.11	30.12
2001	8	30	27.72	27.74	5.56	5.57	34.65	34.66	30.12	30.14
2001	8	31	27.76	27.79	5.59	5.63	34.66	34.67	30.15	30.19

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2001	9	1	27.79	27.81	5.65	5.66	34.68	34.68	30.20	30.23
2001	9	2	--	--	5.66	5.68	34.69	34.69	30.23	30.24
2001	9	3	--	--	5.68	5.71	34.69	34.69	30.24	30.27
2001	9	4	--	--	--	5.80	34.70	34.71	30.28	30.30
2001	9	5	27.86	27.89	5.74	5.82	34.71	34.72	30.31	30.32
2001	9	6	27.88	27.90	5.75	5.85	34.72	34.72	30.31	30.33
2001	9	7	27.90	27.92	5.77	5.79	34.71	34.72	30.33	30.34
2001	9	8	27.94	27.99	5.79	5.80	34.72	34.73	30.34	30.36
2001	9	9	27.87	27.92	5.73	5.77	34.73	34.73	30.33	30.36
2001	9	10	27.82	27.83	5.70	5.93	34.74	34.75	30.31	30.33
2001	9	11	27.81	27.83	5.69	5.76	34.75	34.75	30.31	30.33
2001	9	12	27.79	27.81	5.71	5.73	34.75	34.76	30.31	30.32
2001	9	13	27.82	27.85	5.74	5.78	34.76	34.77	30.33	30.36
2001	9	14	27.83	27.85	5.75	5.78	34.77	34.78	30.34	30.36
2001	9	15	27.83	27.86	5.75	5.78	34.78	34.78	30.33	30.34
2001	9	16	27.84	27.86	5.79	5.86	34.79	34.79	30.32	30.35
2001	9	17	27.85	27.86	5.80	5.87	34.79	34.80	30.34	30.36
2001	9	18	27.86	27.88	5.80	5.84	34.80	34.81	30.36	30.38
2001	9	19	27.82	27.88	5.72	5.82	34.81	34.81	30.31	30.38
2001	9	20	27.79	27.80	5.69	5.74	34.82	34.83	30.25	30.27
2001	9	21	27.75	27.79	5.65	5.69	34.83	34.84	30.23	30.25
2001	9	22	27.68	27.71	5.65	5.68	34.84	34.85	30.20	30.22
2001	9	23	27.64	27.66	5.62	5.67	34.84	34.85	30.16	30.19
2001	9	24	27.63	27.64	5.59	5.61	34.85	34.85	30.14	30.15
2001	9	25	27.59	27.62	5.57	5.61	34.84	34.84	30.12	30.14
2001	9	26	27.53	27.56	5.54	5.56	34.84	34.84	30.07	30.11
2001	9	27	27.54	27.54	5.55	5.56	34.85	34.85	30.07	30.09
2001	9	28	27.54	27.57	5.55	5.61	34.85	34.86	30.08	30.09
2001	9	29	27.55	27.58	5.56	5.58	34.86	34.86	30.09	30.10
2001	9	30	27.55	27.57	5.56	5.58	34.86	34.86	30.08	30.10
2001	10	1	27.53	27.54	5.56	5.61	34.85	34.85	30.07	30.08
2001	10	2	27.55	27.56	5.57	5.61	34.86	34.86	30.07	30.08
2001	10	3	27.56	27.59	5.58	5.61	34.86	34.87	30.07	30.08
2001	10	4	27.60	27.61	5.60	5.64	34.87	34.88	30.10	30.12
2001	10	5	27.54	27.60	5.51	5.57	34.87	34.88	30.05	30.09
2001	10	6	27.46	27.48	5.48	5.51	34.88	34.89	30.01	30.03
2001	10	7	27.46	27.47	5.50	5.52	34.89	34.89	30.00	30.03
2001	10	8	27.46	27.49	5.49	5.54	34.89	34.90	30.01	30.04
2001	10	9	27.44	27.46	5.47	5.51	34.89	34.89	29.99	30.00
2001	10	10	27.45	27.47	5.47	5.52	34.88	34.89	29.97	29.99
2001	10	11	27.45	27.47	5.45	5.48	34.88	34.89	29.96	29.98
2001	10	12	27.40	27.45	5.39	5.43	34.88	34.89	29.90	29.94
2001	10	13	27.36	27.40	5.37	5.40	34.87	34.89	29.85	29.88
2001	10	14	27.29	27.33	5.34	5.38	34.86	34.87	29.79	29.83
2001	10	15	27.28	27.30	5.34	5.37	34.88	34.88	29.77	29.78
2001	10	16	27.18	27.29	5.24	5.34	34.85	34.87	29.68	29.77

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2001	10	17	27.10	27.12	5.15	5.18	34.82	34.85	29.52	29.59
2001	10	18	27.06	27.10	5.08	5.14	34.76	34.79	29.45	29.50
2001	10	19	27.04	27.05	5.04	5.12	34.71	34.73	29.41	29.42
2001	10	20	27.05	27.05	5.04	5.06	34.67	34.69	29.39	29.42
2001	10	21	27.04	27.07	5.04	5.10	34.65	34.66	29.40	29.43
2001	10	22	27.04	27.05	5.02	5.08	34.62	34.63	29.40	29.43
2001	10	23	26.99	27.01	4.98	5.03	34.59	34.60	--	--
2001	10	24	--	--	4.97	5.01	34.57	34.58	--	--
2001	10	25	--	--	4.93	4.97	34.56	34.57	--	--
2001	10	26	--	--	4.93	4.96	34.56	34.56	--	--
2001	10	27	--	--	4.94	4.99	34.56	34.56	--	--
2001	10	28	--	--	4.93	4.96	34.54	34.55	--	--
2001	10	29	--	--	4.92	4.99	34.53	34.54	--	--
2001	10	30	--	--	4.92	4.98	34.52	34.53	--	--
2001	10	31	--	--	4.88	4.91	34.51	34.52	--	--
2001	11	1	--	--	4.89	5.02	34.50	34.50	--	--
2001	11	2	26.91	26.94	4.87	4.90	34.49	34.50	29.34	29.38
2001	11	3	26.90	26.92	4.88	4.92	34.50	34.51	29.34	29.35
2001	11	4	26.88	26.92	4.87	4.93	34.49	34.49	29.34	29.35
2001	11	5	26.89	26.91	4.88	4.94	34.48	34.49	29.35	29.36
2001	11	6	26.88	26.90	4.87	4.93	34.47	34.48	29.35	29.36
2001	11	7	26.88	26.90	4.87	4.92	34.47	34.48	29.36	29.36
2001	11	8	26.87	26.92	4.87	4.90	34.47	34.49	29.36	29.40
2001	11	9	26.89	26.92	4.88	4.91	34.48	34.49	29.39	29.40
2001	11	10	26.86	26.91	4.86	4.91	34.47	34.49	29.37	29.40
2001	11	11	26.92	26.94	4.90	4.97	34.50	34.51	29.43	29.45
2001	11	12	26.92	26.94	4.88	4.95	34.51	34.51	29.45	29.46
2001	11	13	26.89	26.91	4.86	4.92	34.50	34.51	29.44	29.46
2001	11	14	26.89	26.90	4.86	4.90	34.50	34.51	29.44	29.44
2001	11	15	26.83	26.88	4.85	4.96	34.51	34.51	29.42	29.44
2001	11	16	26.83	26.85	4.85	4.88	34.53	34.54	29.43	29.46
2001	11	17	26.84	26.86	4.85	4.88	34.54	34.55	29.46	29.47
2001	11	18	26.81	26.83	4.84	4.86	34.54	34.55	29.45	29.46
2001	11	19	26.80	26.84	4.84	4.90	34.54	34.56	29.42	29.45
2001	11	20	26.83	26.84	4.85	4.90	34.57	34.57	29.45	29.48
2001	11	21	26.80	26.83	4.84	4.89	34.57	34.58	29.43	29.46
2001	11	22	26.83	26.84	4.85	4.86	34.59	34.59	29.46	29.50
2001	11	23	26.83	26.85	4.85	4.91	34.59	34.60	29.47	29.50
2001	11	24	26.81	26.83	4.83	4.85	34.59	34.60	29.47	29.49
2001	11	25	26.80	26.83	4.84	4.90	34.60	34.62	29.45	29.50
2001	11	26	26.81	26.83	4.86	4.88	34.62	34.62	29.50	29.51
2001	11	27	26.77	26.80	4.84	4.89	34.62	34.63	29.47	29.52
2001	11	28	26.80	26.81	4.86	4.89	34.64	34.64	29.52	29.54
2001	11	29	26.74	26.78	4.82	4.85	34.63	34.64	29.47	29.53
2001	11	30	26.65	26.72	4.76	4.80	34.63	34.65	29.34	29.43
2001	12	1	26.66	26.68	4.77	4.82	34.66	34.66	29.30	29.31

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2001	12	2	26.66	26.69	4.76	4.78	34.66	34.67	29.28	29.31
2001	12	3	26.64	26.66	4.74	4.77	34.65	34.66	29.27	29.28
2001	12	4	26.64	26.67	4.74	4.79	34.66	34.67	29.27	29.28
2001	12	5	26.63	26.66	4.73	4.77	34.66	34.67	29.26	29.28
2001	12	6	26.65	26.67	4.73	4.79	34.66	34.67	29.26	29.29
2001	12	7	26.67	26.69	4.75	4.80	34.68	34.68	29.28	29.31
2001	12	8	26.66	26.68	4.74	4.76	34.67	34.68	29.29	29.31
2001	12	9	26.69	26.71	4.75	4.78	34.69	34.69	29.32	29.33
2001	12	10	26.67	26.69	4.75	4.80	34.69	34.70	29.33	29.34
2001	12	11	26.69	26.71	4.76	4.81	34.70	34.70	29.35	29.37
2001	12	12	26.65	26.69	4.74	4.80	34.68	34.69	29.35	29.37
2001	12	13	26.62	26.64	4.72	4.75	34.66	34.67	29.31	29.35
2001	12	14	26.61	26.65	4.72	4.76	34.66	34.68	29.31	29.35
2001	12	15	26.63	26.64	4.75	4.76	34.69	34.69	29.37	29.38
2001	12	16	26.58	26.62	4.72	4.76	34.67	34.69	29.35	29.38
2001	12	17	26.51	26.55	4.67	4.71	34.63	34.65	29.27	29.31
2001	12	18	26.52	26.54	4.68	4.74	34.64	34.64	29.25	29.26
2001	12	19	26.51	26.55	4.68	4.74	34.63	34.63	29.25	29.26
2001	12	20	26.54	26.56	4.70	4.72	34.64	34.65	29.27	29.28
2001	12	21	26.56	26.59	4.71	4.73	34.65	34.65	29.31	29.34
2001	12	22	26.52	26.58	4.69	4.72	34.63	34.65	29.29	29.34
2001	12	23	26.49	26.53	4.68	4.70	34.60	34.61	29.24	29.27
2001	12	24	26.54	26.57	4.69	4.72	34.60	34.61	29.24	29.28
2001	12	25	26.57	26.59	4.70	4.73	34.61	34.61	29.28	29.31
2001	12	26	26.58	26.70	4.69	4.72	34.59	34.60	29.26	29.31
2001	12	27	26.56	26.59	4.69	4.73	34.58	34.58	29.25	29.28
2001	12	28	26.55	26.60	4.69	4.73	34.58	34.58	29.26	29.32
2001	12	29	26.61	26.65	4.71	4.75	34.59	34.59	29.32	29.35
2001	12	30	26.64	26.75	4.72	4.74	34.59	34.59	29.35	29.37
2001	12	31	26.61	26.64	4.72	4.73	34.58	34.59	29.36	29.38
2002	1	1	--	--	4.74	4.76	34.59	34.59	29.39	29.43
2002	1	2	--	--	4.74	4.78	34.58	34.59	29.40	29.43
2002	1	3	--	--	4.73	4.76	34.57	34.57	29.38	29.41
2002	1	4	--	--	4.73	4.76	34.55	34.56	29.37	29.41
2002	1	5	26.59	26.61	4.73	4.74	34.55	34.55	29.38	29.38
2002	1	6	--	--	4.73	4.77	34.54	34.55	29.36	29.39
2002	1	7	--	--	4.75	4.80	34.55	34.55	29.39	29.42
2002	1	8	--	--	4.73	4.75	34.53	34.54	29.36	29.41
2002	1	9	26.55	26.59	4.72	4.77	34.52	34.53	29.34	29.36
2002	1	10	26.58	26.61	4.75	4.82	34.53	34.54	29.37	29.38
2002	1	11	26.59	26.61	4.75	4.76	34.54	34.54	29.38	29.44
2002	1	12	--	--	4.72	4.80	34.52	34.53	29.34	29.38
2002	1	13	--	--	4.75	4.84	34.52	34.53	29.36	29.38
2002	1	14	--	--	4.74	4.78	34.52	34.53	29.36	29.38
2002	1	15	--	--	4.76	4.80	34.53	34.54	29.37	29.42
2002	1	16	--	--	4.75	4.80	34.53	34.54	29.38	29.42

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	1	17	--	--	4.74	4.78	34.52	34.53	29.36	29.38
2002	1	18	--	--	4.76	4.77	34.53	34.53	29.38	29.40
2002	1	19	--	--	4.74	4.76	34.51	34.53	29.35	29.40
2002	1	20	--	--	4.75	4.79	34.51	34.52	29.36	29.38
2002	1	21	--	--	4.75	4.79	34.51	34.53	29.34	29.40
2002	1	22	--	--	4.77	4.82	34.53	34.53	29.39	29.41
2002	1	23	--	--	4.74	4.79	34.51	34.52	29.35	29.35
2002	1	24	--	--	4.75	4.78	34.52	34.52	29.34	29.36
2002	1	25	--	--	4.75	4.79	34.52	34.53	29.35	29.36
2002	1	26	--	--	4.76	4.79	34.53	34.53	29.34	29.36
2002	1	27	--	--	4.75	4.80	34.52	34.53	29.34	29.36
2002	1	28	--	--	4.74	4.80	34.52	34.52	29.32	29.35
2002	1	29	--	--	4.75	4.82	34.53	34.53	29.34	29.35
2002	1	30	--	--	4.77	4.81	34.54	34.55	29.38	29.41
2002	1	31	--	--	4.73	4.78	34.53	34.55	29.34	29.40
2002	2	1	--	--	4.73	4.83	34.53	34.56	29.32	29.38
2002	2	2	--	--	4.76	4.83	34.55	34.56	29.37	29.39
2002	2	3	--	--	4.72	4.78	34.53	34.54	29.31	29.35
2002	2	4	--	--	4.76	4.83	34.55	34.56	29.36	29.41
2002	2	5	--	--	4.76	4.83	34.55	34.56	29.36	29.39
2002	2	6	--	--	4.74	4.81	34.54	34.55	29.34	29.37
2002	2	7	--	--	4.73	4.78	34.54	34.55	29.33	29.35
2002	2	8	--	--	4.75	4.81	34.55	34.56	29.35	29.40
2002	2	9	--	--	4.76	4.79	34.56	34.57	29.36	29.40
2002	2	10	--	--	4.73	4.85	34.55	34.57	29.33	29.35
2002	2	11	--	--	4.82	5.03	34.56	34.58	29.33	29.36
2002	2	12	--	--	4.70	4.77	34.55	34.57	29.28	29.33
2002	2	13	--	--	4.75	4.78	34.58	34.58	29.33	29.34
2002	2	14	--	--	4.72	4.77	34.57	34.57	29.32	29.34
2002	2	15	--	--	4.69	4.74	34.55	34.56	29.28	29.30
2002	2	16	--	--	4.70	4.80	34.55	34.57	29.27	29.29
2002	2	17	--	--	4.73	4.81	34.58	34.59	29.30	29.33
2002	2	18	--	--	4.72	4.78	34.59	34.59	29.31	29.33
2002	2	19	--	--	4.69	4.72	34.57	34.58	29.28	29.30
2002	2	20	--	--	4.64	4.68	34.55	34.56	29.22	29.26
2002	2	21	26.21	26.23	4.63	4.68	34.57	34.59	29.18	29.19
2002	2	22	26.21	26.21	4.62	4.66	34.59	34.59	29.17	29.18
2002	2	23	26.18	26.20	4.59	4.63	34.58	34.59	29.14	29.17
2002	2	24	26.16	26.19	4.57	4.63	34.56	34.57	29.12	29.14
2002	2	25	26.14	26.17	4.55	4.62	34.54	34.55	29.10	29.11
2002	2	26	26.11	26.14	4.53	4.59	34.52	34.53	29.08	29.09
2002	2	27	26.14	26.18	4.55	4.60	34.53	34.53	29.09	29.12
2002	2	28	26.16	26.20	4.55	4.59	34.53	34.53	29.10	29.12
2002	3	1	26.17	26.19	4.56	4.61	34.54	34.54	29.12	29.14
2002	3	2	26.07	26.15	4.49	4.55	34.51	34.53	29.08	29.13
2002	3	3	26.04	26.11	4.47	4.53	34.50	34.52	29.03	29.05

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	3	4	26.08	26.15	4.48	4.51	34.51	34.52	29.04	29.04
2002	3	5	26.05	26.09	4.46	4.51	34.50	34.51	29.03	29.05
2002	3	6	26.02	26.05	4.44	4.47	34.49	34.49	29.03	29.03
2002	3	7	26.03	26.05	4.44	4.49	34.48	34.49	29.04	29.04
2002	3	8	25.97	26.01	4.41	4.44	34.47	34.47	29.00	29.02
2002	3	9	25.86	25.94	4.36	4.40	34.45	34.47	28.95	28.98
2002	3	10	25.91	25.95	4.39	4.42	34.47	34.47	28.94	28.97
2002	3	11	25.84	25.95	4.36	4.42	34.44	34.46	28.91	28.96
2002	3	12	25.80	25.83	4.34	4.37	34.42	34.43	28.88	28.90
2002	3	13	25.78	25.83	4.32	4.36	34.40	34.41	28.86	28.88
2002	3	14	25.81	25.87	4.32	4.35	34.38	34.39	28.87	28.88
2002	3	15	25.79	25.87	4.30	4.33	34.37	34.37	28.85	28.90
2002	3	16	25.89	25.93	4.33	4.38	34.36	34.37	28.91	28.93
2002	3	17	25.83	25.98	4.29	4.34	34.34	34.36	28.91	28.93
2002	3	18	25.82	25.84	4.30	4.35	34.33	34.34	28.91	28.93
2002	3	19	25.81	25.87	4.29	4.33	34.32	34.33	28.92	28.93
2002	3	20	--	25.82	4.27	4.30	34.30	34.30	28.90	28.94
2002	3	21	--	--	4.28	4.32	34.28	34.29	28.92	28.94
2002	3	22	--	--	4.27	4.31	34.27	34.28	28.93	28.95
2002	3	23	--	--	4.26	4.29	34.25	34.26	28.91	28.94
2002	3	24	--	--	4.28	4.33	34.24	34.25	28.95	28.97
2002	3	25	--	--	4.30	4.33	34.23	34.24	28.97	28.98
2002	3	26	--	--	4.27	4.34	34.21	34.22	28.96	28.98
2002	3	27	--	--	4.29	4.34	34.20	34.21	28.98	28.99
2002	3	28	--	--	4.27	4.35	34.18	34.19	28.97	28.99
2002	3	29	--	--	4.25	4.29	34.16	34.17	28.94	28.95
2002	3	30	--	--	4.27	4.30	34.16	34.16	28.96	28.99
2002	3	31	--	--	4.28	4.32	34.15	34.15	28.97	29.00
2002	4	1	--	--	4.29	4.34	34.14	34.14	28.98	29.01
2002	4	2	--	--	4.25	4.30	34.12	34.13	28.94	28.98
2002	4	3	--	--	4.28	4.33	34.14	34.15	28.94	28.97
2002	4	4	--	--	4.29	4.33	34.14	34.14	28.96	28.97
2002	4	5	--	--	4.27	4.31	34.12	34.13	28.94	28.95
2002	4	6	--	--	4.27	4.30	34.12	34.12	28.95	28.96
2002	4	7	--	--	4.25	4.31	34.11	34.11	28.93	28.95
2002	4	8	--	--	4.23	4.29	34.10	34.11	28.89	28.92
2002	4	9	--	--	4.23	4.29	34.11	34.13	28.85	28.87
2002	4	10	--	--	4.22	4.28	34.12	34.13	28.85	28.87
2002	4	11	--	--	4.20	4.22	34.10	34.11	28.81	28.82
2002	4	12	--	--	4.18	4.20	34.09	34.09	28.79	28.80
2002	4	13	--	--	4.16	4.20	34.08	34.09	28.78	28.78
2002	4	14	--	--	4.14	4.19	34.07	34.08	28.76	28.78
2002	4	15	--	--	4.15	4.20	34.06	34.07	28.75	28.76
2002	4	16	--	--	4.16	4.20	34.07	34.07	28.77	28.79
2002	4	17	--	--	4.16	4.20	34.06	34.07	28.79	28.80
2002	4	18	--	--	4.15	4.18	34.06	34.07	28.79	28.81

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	4	19	--	--	4.15	4.20	34.06	34.07	28.80	28.83
2002	4	20	--	--	4.16	4.20	34.06	34.08	28.83	28.84
2002	4	21	--	--	4.15	4.17	34.05	34.06	28.83	28.85
2002	4	22	--	--	4.16	4.21	34.05	34.06	28.83	28.86
2002	4	23	--	--	4.18	4.20	34.06	34.07	28.85	28.87
2002	4	24	--	--	4.16	4.20	34.05	34.06	28.83	28.87
2002	4	25	--	--	4.18	4.24	34.06	34.06	28.85	28.88
2002	4	26	25.96	25.98	4.21	4.24	34.07	34.08	28.88	28.93
2002	4	27	25.94	25.99	4.19	4.23	34.06	34.08	28.89	28.94
2002	4	28	25.85	25.92	4.14	4.19	34.04	34.07	28.81	28.85
2002	4	29	25.90	25.92	4.19	4.22	34.07	34.07	28.85	28.87
2002	4	30	25.89	25.91	4.18	4.22	34.06	34.07	28.85	28.87
2002	5	1	25.89	25.91	4.19	4.22	34.06	34.07	28.87	28.89
2002	5	2	25.83	25.86	4.17	4.21	34.06	34.08	28.83	28.87
2002	5	3	25.89	25.92	4.22	4.27	34.09	34.10	28.88	28.90
2002	5	4	25.88	25.90	4.23	4.26	34.09	34.10	28.89	28.94
2002	5	5	25.88	25.90	4.24	4.26	34.08	34.09	28.90	28.91
2002	5	6	25.85	25.88	4.22	4.29	34.06	34.07	28.88	28.90
2002	5	7	25.87	25.90	4.24	4.38	34.06	34.07	28.88	28.92
2002	5	8	25.87	25.90	4.23	4.27	34.06	34.07	28.89	28.92
2002	5	9	25.83	25.88	4.21	4.25	34.04	34.06	28.86	28.91
2002	5	10	25.90	25.94	4.27	4.30	34.08	34.09	28.92	28.94
2002	5	11	25.90	25.93	4.28	4.31	34.08	34.09	28.94	28.98
2002	5	12	25.78	25.85	4.20	4.26	34.04	34.06	28.85	28.91
2002	5	13	25.76	25.77	4.20	4.24	34.04	34.04	28.80	28.84
2002	5	14	25.77	25.81	4.21	4.26	34.03	34.05	28.79	28.82
2002	5	15	25.80	25.82	4.24	4.29	34.04	34.05	28.81	28.85
2002	5	16	25.74	25.77	4.22	4.27	34.03	34.04	28.79	28.81
2002	5	17	25.68	25.70	4.23	4.26	34.03	34.04	28.80	28.82
2002	5	18	25.69	25.71	4.24	4.27	34.03	34.03	28.81	28.85
2002	5	19	25.71	25.72	4.26	4.30	34.02	34.03	28.84	28.87
2002	5	20	25.72	25.73	4.27	4.32	34.02	34.02	28.85	28.90
2002	5	21	25.72	25.74	4.27	4.30	34.01	34.02	28.86	28.90
2002	5	22	25.71	25.74	4.28	4.33	34.01	34.01	28.87	28.91
2002	5	23	25.70	25.73	4.28	4.32	34.00	34.00	28.83	28.87
2002	5	24	25.76	25.80	4.31	4.34	34.00	34.01	28.87	28.91
2002	5	25	25.76	25.79	4.31	4.33	33.99	34.00	28.87	28.90
2002	5	26	25.79	25.81	4.35	4.37	33.99	34.00	28.90	28.93
2002	5	27	25.80	25.83	4.37	4.41	33.98	33.98	28.91	28.94
2002	5	28	25.80	25.82	4.40	4.44	33.97	33.98	28.93	28.98
2002	5	29	25.80	25.82	4.40	4.43	33.96	33.96	28.94	28.96
2002	5	30	25.82	25.84	4.41	4.47	33.96	33.96	28.94	28.96
2002	5	31	25.84	25.89	4.39	4.44	33.95	33.96	28.94	28.98
2002	6	1	25.90	25.94	4.44	4.48	33.95	33.96	28.98	29.01
2002	6	2	25.97	26.01	4.51	4.55	33.96	33.97	29.02	29.07
2002	6	3	25.97	26.00	4.51	4.56	33.96	33.97	29.03	29.10

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	6	4	25.89	25.93	4.48	4.76	33.95	33.96	28.97	29.02
2002	6	5	25.89	25.92	4.47	4.51	33.95	33.95	28.94	28.98
2002	6	6	25.92	25.94	4.49	4.55	33.95	33.95	28.97	29.01
2002	6	7	25.95	25.97	4.51	4.54	33.94	33.95	28.97	29.05
2002	6	8	25.99	26.02	4.53	4.56	33.94	33.94	28.99	29.05
2002	6	9	26.03	26.05	4.57	4.61	33.93	33.93	29.02	29.09
2002	6	10	26.05	26.07	4.67	5.12	33.92	33.93	29.03	29.07
2002	6	11	26.07	26.09	4.99	5.16	33.91	33.92	29.04	29.09
2002	6	12	26.12	26.16	4.64	4.68	33.92	33.93	29.06	29.14
2002	6	13	26.15	26.16	4.66	4.73	33.92	33.93	29.08	29.14
2002	6	14	26.15	26.17	4.63	4.67	33.92	33.92	29.07	29.13
2002	6	15	26.17	26.18	4.64	4.67	33.93	33.94	29.07	29.14
2002	6	16	26.19	26.22	4.66	4.81	33.95	33.95	29.08	29.14
2002	6	17	26.22	26.24	4.68	4.71	33.96	33.97	29.10	29.17
2002	6	18	26.25	26.29	4.72	4.84	33.98	33.99	29.15	29.25
2002	6	19	26.28	26.32	4.77	4.81	34.00	34.00	29.15	29.27
2002	6	20	26.32	26.34	4.82	4.86	34.01	34.01	29.19	29.27
2002	6	21	26.35	26.36	4.84	4.89	34.01	34.01	29.21	29.25
2002	6	22	26.36	26.38	4.85	4.90	34.00	34.01	29.22	29.29
2002	6	23	26.39	26.43	4.90	4.95	33.99	33.99	29.25	29.32
2002	6	24	26.43	26.46	4.90	4.94	33.99	33.99	29.28	29.33
2002	6	25	26.47	26.49	4.93	4.96	33.99	33.99	29.31	29.41
2002	6	26	26.49	26.52	4.92	4.95	33.99	33.99	29.31	29.36
2002	6	27	26.53	26.58	4.94	4.99	34.00	34.02	29.32	29.46
2002	6	28	26.59	26.63	5.00	5.04	34.03	34.04	29.36	29.45
2002	6	29	26.64	26.67	5.04	5.09	34.05	34.06	29.39	29.46
2002	6	30	26.68	26.72	5.08	5.15	34.06	34.06	29.42	29.57
2002	7	1	26.71	26.74	5.12	5.18	34.07	34.07	--	--
2002	7	2	26.76	26.79	5.15	5.19	34.08	34.08	--	--
2002	7	3	26.80	26.84	5.20	5.40	34.08	34.09	--	--
2002	7	4	26.86	26.90	5.25	5.33	34.10	34.11	--	--
2002	7	5	26.91	26.92	5.29	5.33	34.12	34.13	--	--
2002	7	6	26.93	26.95	5.31	5.34	34.13	34.14	--	--
2002	7	7	26.95	26.99	5.34	5.44	34.14	34.14	--	--
2002	7	8	26.97	27.02	5.37	5.46	34.14	34.15	--	--
2002	7	9	27.01	27.06	5.34	5.39	34.15	34.16	--	--
2002	7	10	27.05	27.11	5.35	5.41	34.17	34.18	--	--
2002	7	11	27.08	27.10	5.41	5.46	34.19	34.19	--	--
2002	7	12	27.09	27.11	5.45	5.52	34.19	34.20	--	--
2002	7	13	27.13	27.16	5.49	5.55	34.20	34.21	--	--
2002	7	14	27.18	27.24	5.53	5.61	34.22	34.22	--	--
2002	7	15	27.22	27.27	5.57	5.60	34.23	34.24	--	--
2002	7	16	27.27	27.33	5.60	5.64	34.25	34.25	--	--
2002	7	17	27.30	27.35	5.64	5.69	34.26	34.26	--	--
2002	7	18	27.33	27.38	5.66	5.71	34.27	34.27	--	--
2002	7	19	27.36	27.41	5.67	5.71	34.28	34.29	--	--

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	7	20	27.39	27.42	5.72	5.77	34.30	34.30	--	--
2002	7	21	27.38	27.42	5.71	5.77	34.31	34.31	--	--
2002	7	22	27.32	27.35	5.64	5.68	34.32	34.33	--	--
2002	7	23	27.29	27.30	5.66	5.71	34.33	34.33	--	--
2002	7	24	27.26	27.29	5.70	5.77	34.33	34.34	--	--
2002	7	25	27.26	27.28	5.72	5.78	34.34	34.34	--	--
2002	7	26	27.23	27.26	5.67	5.74	34.34	34.34	--	--
2002	7	27	27.20	27.22	5.64	5.67	34.34	34.35	--	--
2002	7	28	27.16	27.18	5.61	5.64	34.33	34.33	--	--
2002	7	29	27.15	27.17	--	5.65	34.32	34.33	--	--
2002	7	30	27.11	27.12	--	--	34.32	34.32	--	--
2002	7	31	27.12	27.13	--	--	34.32	34.32	--	--
2002	8	1	27.14	27.17	--	--	34.32	34.32	--	--
2002	8	2	27.19	27.23	--	--	34.33	34.34	--	--
2002	8	3	27.23	27.26	--	--	34.34	34.34	--	--
2002	8	4	27.25	27.27	--	--	34.34	34.34	--	--
2002	8	5	27.28	27.31	--	--	34.34	34.35	--	--
2002	8	6	27.32	27.37	--	--	34.35	34.36	--	--
2002	8	7	27.33	27.35	--	--	34.36	34.36	--	--
2002	8	8	27.36	27.38	--	--	34.37	34.37	--	--
2002	8	9	27.38	27.41	--	--	34.37	34.38	--	--
2002	8	10	27.40	27.43	--	--	34.38	34.38	--	--
2002	8	11	27.45	27.50	--	--	34.38	34.39	--	--
2002	8	12	27.47	27.52	--	--	34.39	34.39	--	--
2002	8	13	27.50	27.53	--	--	34.39	34.40	--	--
2002	8	14	27.46	27.50	--	--	34.40	34.41	--	--
2002	8	15	27.40	27.42	--	--	34.41	34.42	--	--
2002	8	16	27.39	27.41	--	--	34.42	34.43	--	--
2002	8	17	27.37	27.39	--	--	34.43	34.43	--	--
2002	8	18	27.40	27.44	--	--	34.44	34.44	--	--
2002	8	19	27.39	27.41	--	--	34.44	34.45	--	--
2002	8	20	27.39	27.41	--	--	34.46	34.47	--	--
2002	8	21	27.39	27.41	--	--	34.47	34.47	--	--
2002	8	22	27.39	27.41	--	--	34.48	34.48	--	--
2002	8	23	27.38	27.41	--	--	34.48	34.49	--	--
2002	8	24	27.37	27.40	--	--	34.49	34.50	--	--
2002	8	25	27.39	27.41	--	--	34.50	34.51	--	--
2002	8	26	27.41	27.45	--	--	34.51	34.51	--	--
2002	8	27	27.45	27.48	--	--	34.52	34.53	--	--
2002	8	28	27.46	27.50	--	--	34.53	34.54	--	--
2002	8	29	27.48	27.54	--	--	34.54	34.55	--	--
2002	8	30	27.51	27.53	6.12	6.15	34.55	34.56	--	--
2002	8	31	27.54	27.55	6.15	6.18	34.56	34.57	--	--
2002	9	1	27.55	27.57	6.17	6.19	34.57	34.57	--	--
2002	9	2	27.57	27.59	6.17	6.20	34.57	34.58	--	--
2002	9	3	27.60	27.66	6.20	6.24	34.58	34.59	--	--

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	9	4	27.65	27.69	6.25	6.29	34.60	34.61	--	--
2002	9	5	27.66	27.69	6.29	6.34	34.61	34.62	--	--
2002	9	6	27.68	27.74	6.28	6.31	34.62	34.63	--	--
2002	9	7	27.70	27.73	6.31	6.35	34.63	34.64	--	--
2002	9	8	27.74	27.80	6.35	6.40	34.65	34.65	--	--
2002	9	9	27.75	27.79	6.37	6.41	34.65	34.66	--	--
2002	9	10	27.76	27.79	6.37	6.40	34.66	34.67	--	--
2002	9	11	27.79	27.82	6.40	6.44	34.67	34.68	--	--
2002	9	12	27.81	27.87	6.42	6.46	34.69	34.69	--	--
2002	9	13	27.85	27.89	6.44	6.46	34.70	34.70	--	--
2002	9	14	27.86	27.92	6.45	6.48	34.71	34.72	--	--
2002	9	15	27.89	27.90	6.45	6.48	34.72	34.73	--	--
2002	9	16	27.88	27.90	6.45	6.49	34.74	34.74	--	--
2002	9	17	27.89	27.91	6.47	6.51	34.75	34.75	--	--
2002	9	18	27.89	27.91	6.47	6.50	34.76	34.77	--	--
2002	9	19	27.86	27.88	6.46	6.49	34.77	34.78	--	--
2002	9	20	27.85	27.88	6.41	6.47	34.79	34.80	--	--
2002	9	21	27.84	27.87	6.31	6.34	34.80	34.81	--	--
2002	9	22	27.85	27.87	6.31	6.34	34.82	34.83	--	--
2002	9	23	27.84	27.85	6.32	6.34	34.83	34.84	--	--
2002	9	24	27.85	27.87	6.34	6.37	34.85	34.86	--	--
2002	9	25	27.85	27.87	6.33	6.35	34.86	34.87	--	--
2002	9	26	27.83	27.85	6.33	6.37	34.87	34.87	--	--
2002	9	27	27.84	27.90	6.31	6.34	34.88	34.89	--	--
2002	9	28	27.90	27.91	6.31	6.34	34.90	34.91	--	--
2002	9	29	27.90	27.92	6.31	6.33	34.91	34.92	--	--
2002	9	30	27.91	27.92	6.32	6.35	34.93	34.93	--	--
2002	10	1	27.92	27.94	6.35	6.37	34.88	34.88	--	--
2002	10	2	27.94	27.97	6.34	6.38	34.89	34.89	--	--
2002	10	3	27.94	27.96	6.30	6.34	34.90	34.90	--	--
2002	10	4	27.89	27.93	6.25	6.28	34.90	34.91	30.38	30.42
2002	10	5	27.92	27.93	6.26	6.27	34.92	34.92	30.39	30.40
2002	10	6	27.89	27.92	6.24	6.26	34.92	34.94	30.36	30.39
2002	10	7	27.92	27.94	6.27	6.29	34.95	34.95	30.37	30.39
2002	10	8	27.91	27.93	6.27	6.29	34.96	34.96	30.38	30.40
2002	10	9	27.92	27.94	6.28	6.30	34.96	34.97	30.39	30.39
2002	10	10	27.94	27.96	6.30	6.31	34.97	34.98	30.40	30.41
2002	10	11	27.95	27.96	6.30	6.32	34.98	34.99	30.41	30.42
2002	10	12	27.95	27.97	6.30	6.31	34.99	35.00	30.41	30.41
2002	10	13	27.97	27.99	6.31	6.33	35.01	35.02	30.42	30.44
2002	10	14	27.95	27.99	6.30	6.32	35.02	35.02	30.43	30.45
2002	10	15	27.92	27.93	6.29	6.31	35.02	35.02	30.41	30.42
2002	10	16	27.94	27.96	6.30	6.32	35.03	35.03	30.42	30.43
2002	10	17	27.94	27.96	6.31	6.33	35.04	35.04	30.43	30.44
2002	10	18	27.93	27.95	6.29	6.32	35.05	35.05	30.43	30.45
2002	10	19	27.93	27.96	6.28	6.31	35.06	35.07	30.43	30.44

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	10	20	27.95	27.97	6.29	6.31	35.07	35.08	30.45	30.47
2002	10	21	27.95	27.97	6.29	6.30	35.08	35.08	30.47	30.48
2002	10	22	27.95	27.98	6.29	6.31	35.09	35.10	30.50	30.53
2002	10	23	27.96	27.97	6.30	6.31	35.10	35.11	30.53	30.55
2002	10	24	27.95	27.96	6.28	6.30	35.11	35.11	30.53	30.55
2002	10	25	27.91	27.95	6.26	6.29	35.12	35.13	30.51	30.53
2002	10	26	27.90	27.92	6.26	6.28	35.13	35.14	30.49	30.50
2002	10	27	27.91	27.92	6.27	6.28	35.14	35.15	30.51	30.52
2002	10	28	27.91	27.92	6.27	6.28	35.15	35.15	30.51	30.52
2002	10	29	27.89	27.92	6.26	6.27	35.15	35.16	30.51	30.52
2002	10	30	27.89	27.91	6.27	6.28	35.16	35.17	30.52	30.53
2002	10	31	--	--	6.27	6.28	35.18	35.19	30.53	30.54
2002	11	1	--	--	6.27	6.29	35.19	35.20	30.52	30.53
2002	11	2	--	--	6.28	6.30	35.20	35.21	30.52	30.53
2002	11	3	--	--	6.28	6.29	35.21	35.21	30.52	30.53
2002	11	4	--	--	6.28	6.30	35.22	35.22	30.52	30.53
2002	11	5	--	--	6.26	6.30	35.22	35.23	30.50	30.53
2002	11	6	--	--	6.26	6.29	35.23	35.25	30.50	30.52
2002	11	7	--	--	6.27	6.29	35.25	35.26	30.50	30.52
2002	11	8	--	--	6.25	6.27	35.26	35.26	30.48	30.49
2002	11	9	--	--	6.26	6.27	35.27	35.27	30.47	30.48
2002	11	10	--	--	6.21	6.25	35.27	35.27	30.43	30.46
2002	11	11	27.80	27.82	6.24	6.25	35.28	35.29	30.44	30.45
2002	11	12	27.79	27.82	6.23	6.25	35.29	35.29	30.44	30.45
2002	11	13	27.77	27.78	6.21	6.22	35.30	35.31	30.42	30.43
2002	11	14	27.76	27.78	6.20	6.21	35.30	35.31	30.40	30.40
2002	11	15	27.78	27.80	6.21	6.22	35.31	35.32	30.40	30.41
2002	11	16	27.77	27.78	6.20	6.21	35.32	35.32	30.38	30.39
2002	11	17	27.76	27.79	6.19	6.22	35.31	35.32	30.36	30.37
2002	11	18	27.77	27.78	6.21	6.22	35.32	35.32	30.38	30.39
2002	11	19	27.74	27.76	6.18	6.20	35.33	35.34	30.36	30.37
2002	11	20	27.74	27.77	6.19	6.21	35.34	35.34	30.35	30.36
2002	11	21	27.71	27.73	6.17	6.19	35.34	35.34	30.33	30.34
2002	11	22	27.71	27.73	6.17	6.18	35.34	35.35	30.32	30.35
2002	11	23	27.70	27.73	6.17	6.19	35.35	35.35	30.32	30.34
2002	11	24	27.71	27.72	6.18	6.19	35.35	35.36	30.34	30.35
2002	11	25	27.71	27.72	6.19	6.20	35.36	35.36	30.35	30.36
2002	11	26	27.70	27.72	6.19	6.20	35.36	35.36	30.36	30.36
2002	11	27	27.70	27.72	6.19	6.20	35.36	35.36	30.36	30.37
2002	11	28	27.68	27.70	6.18	6.19	35.36	35.36	30.34	30.36
2002	11	29	27.64	27.65	6.16	6.18	35.35	35.35	30.30	30.32
2002	11	30	27.67	27.71	6.19	6.23	35.36	35.37	30.32	30.36
2002	12	1	27.68	27.71	6.21	6.22	35.37	35.37	30.35	30.36
2002	12	2	27.69	27.74	6.21	6.26	35.37	35.38	30.37	30.41
2002	12	3	--	--	6.24	6.26	35.38	35.38	30.42	30.43
2002	12	4	27.72	27.79	6.23	6.25	35.38	35.38	30.42	30.43

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2002	12	5	27.67	27.69	6.21	6.23	35.38	35.38	30.40	30.41
2002	12	6	27.68	27.69	6.22	6.23	35.38	35.39	--	--
2002	12	7	27.68	27.69	6.22	6.24	35.39	35.39	--	--
2002	12	8	27.71	27.75	6.25	6.27	35.39	35.40	--	--
2002	12	9	--	--	6.24	6.26	35.40	35.40	--	--
2002	12	10	27.69	27.69	6.24	6.25	35.40	35.40	--	--
2002	12	11	27.69	27.72	6.24	6.25	35.40	35.40	--	--
2002	12	12	27.69	27.71	6.25	6.26	35.41	35.41	--	--
2002	12	13	27.67	27.69	6.23	6.25	35.40	35.41	--	--
2002	12	14	27.68	27.70	6.22	6.24	35.41	35.41	--	--
2002	12	15	27.68	27.70	6.22	6.24	35.41	35.42	--	--
2002	12	16	27.71	27.73	6.24	6.25	35.42	35.43	--	--
2002	12	17	27.70	27.72	6.23	6.24	35.43	35.43	--	--
2002	12	18	27.67	27.69	6.21	6.24	35.43	35.43	--	--
2002	12	19	27.62	27.66	6.16	6.20	35.43	35.43	--	--
2002	12	20	27.57	27.59	6.14	6.15	35.43	35.44	--	--
2002	12	21	27.58	27.59	6.15	6.18	35.44	35.44	--	--
2002	12	22	27.58	27.61	6.15	6.17	35.44	35.45	--	--
2002	12	23	27.59	27.61	6.16	6.18	35.45	35.45	--	--
2002	12	24	27.57	27.61	6.15	6.18	35.45	35.45	--	--
2002	12	25	27.53	27.57	6.15	6.18	35.45	35.45	--	--
2002	12	26	27.55	27.57	6.17	6.18	35.46	35.46	--	--
2002	12	27	27.52	27.55	6.16	6.18	35.46	35.46	--	--
2002	12	28	27.48	27.50	6.14	6.16	35.46	35.47	--	--
2002	12	29	27.48	27.50	6.16	6.17	35.47	35.47	--	--
2002	12	30	27.42	27.47	6.13	6.16	35.47	35.47	--	--
2002	12	31	27.39	27.41	6.12	6.14	35.48	35.48	--	--
2003	1	1	27.37	27.40	6.12	6.14	35.48	35.48	--	--
2003	1	2	27.35	27.37	6.12	6.14	35.48	35.49	--	--
2003	1	3	27.33	27.37	6.12	6.13	35.49	35.49	--	--
2003	1	4	27.32	27.35	6.12	6.14	35.49	35.50	--	--
2003	1	5	27.30	27.33	6.12	6.14	35.50	35.50	--	--
2003	1	6	--	--	6.14	6.15	35.50	35.51	--	--
2003	1	7	--	--	6.11	6.14	35.50	35.51	--	--
2003	1	8	27.19	27.22	6.10	6.12	35.50	35.51	--	--
2003	1	9	27.19	27.22	--	--	35.51	35.52	--	--
2003	1	10	--	--	6.13	6.15	35.52	35.53	--	--
2003	1	11	--	--	6.15	6.18	35.53	35.54	--	--
2003	1	12	--	--	6.16	6.17	35.54	35.54	--	--
2003	1	13	--	--	6.15	6.18	35.54	35.55	--	--
2003	1	14	27.17	27.19	6.16	6.17	35.55	35.55	30.36	30.37
2003	1	15	27.19	27.21	6.17	6.19	35.56	35.56	30.37	30.39
2003	1	16	27.20	27.23	6.16	6.19	35.56	35.57	30.37	30.39
2003	1	17	27.22	27.25	6.18	6.19	35.57	35.57	30.39	30.40
2003	1	18	27.22	27.25	6.17	6.19	35.57	35.58	30.38	30.39
2003	1	19	27.23	27.26	6.18	6.20	35.58	35.59	30.38	30.39

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	1	20	27.27	27.30	6.21	6.23	35.59	35.59	30.42	30.44
2003	1	21	27.30	27.32	6.23	6.24	35.60	35.60	30.45	30.46
2003	1	22	27.32	27.33	6.23	6.24	35.61	35.61	30.47	30.48
2003	1	23	27.33	27.36	6.24	6.26	35.61	35.62	30.48	30.50
2003	1	24	27.36	27.37	6.25	6.27	35.62	35.63	30.50	30.51
2003	1	25	27.34	27.36	6.24	6.25	35.63	35.63	30.48	30.49
2003	1	26	27.38	27.41	6.25	6.27	35.64	35.64	30.50	30.52
2003	1	27	27.40	27.41	6.26	6.26	35.65	35.65	30.51	30.52
2003	1	28	27.37	27.39	6.24	6.26	35.65	35.66	30.49	30.50
2003	1	29	27.42	27.44	6.26	6.28	35.66	35.67	30.51	30.53
2003	1	30	27.42	27.43	6.26	6.27	35.66	35.67	30.51	30.52
2003	1	31	27.40	27.43	6.25	6.26	35.67	35.67	30.49	30.51
2003	2	1	27.40	27.42	6.25	6.26	35.67	35.68	30.48	30.49
2003	2	2	27.42	27.44	6.26	6.26	35.68	35.69	30.49	30.51
2003	2	3	27.38	27.41	6.22	6.26	35.68	35.69	30.46	30.50
2003	2	4	27.37	27.42	6.20	6.23	35.70	35.70	30.41	30.43
2003	2	5	27.42	27.43	6.21	6.24	35.70	35.71	30.43	30.44
2003	2	6	27.40	27.42	6.19	6.20	35.70	35.71	30.42	30.43
2003	2	7	27.40	27.41	6.17	6.18	35.71	35.71	30.40	30.41
2003	2	8	27.39	27.42	6.17	6.18	35.71	35.72	30.38	30.39
2003	2	9	27.42	27.45	6.18	6.20	35.72	35.72	30.39	30.40
2003	2	10	27.42	27.47	6.17	6.21	35.72	35.73	30.38	30.40
2003	2	11	27.42	27.46	6.17	6.20	35.72	35.73	30.38	30.40
2003	2	12	27.47	27.49	6.20	6.22	35.73	35.73	30.41	30.43
2003	2	13	27.48	27.51	6.20	6.23	35.74	35.74	30.44	30.45
2003	2	14	27.50	27.51	6.21	6.23	35.74	35.75	30.45	30.47
2003	2	15	27.53	27.57	6.24	6.25	35.75	35.76	30.49	30.51
2003	2	16	27.54	27.56	6.22	6.24	35.76	35.76	30.49	30.50
2003	2	17	27.52	27.54	6.21	6.22	35.76	35.77	30.47	30.48
2003	2	18	27.53	27.55	6.22	6.24	35.76	35.77	30.47	30.48
2003	2	19	27.56	27.57	6.23	6.24	35.77	35.78	30.48	30.50
2003	2	20	27.56	27.58	6.23	6.24	35.78	35.78	30.49	30.50
2003	2	21	27.54	27.56	6.21	6.22	35.79	35.79	30.47	30.48
2003	2	22	27.52	27.55	6.19	6.20	35.79	35.79	30.42	30.45
2003	2	23	27.55	27.59	6.22	6.25	35.80	35.80	30.44	30.47
2003	2	24	27.57	27.59	6.23	6.24	35.80	35.81	30.47	30.48
2003	2	25	27.58	27.60	6.23	6.24	35.81	35.81	30.49	30.50
2003	2	26	27.54	27.58	6.21	6.22	35.82	35.82	30.47	30.48
2003	2	27	27.53	27.55	6.20	6.23	35.82	35.83	30.47	30.47
2003	2	28	27.54	27.56	6.22	6.23	35.83	35.84	30.47	30.49
2003	3	1	27.53	27.55	6.21	6.23	35.83	35.84	30.47	30.49
2003	3	2	27.53	27.57	6.21	6.25	35.84	35.84	30.45	30.48
2003	3	3	27.55	27.58	6.22	6.25	35.84	35.85	30.48	30.49
2003	3	4	27.52	27.54	6.21	6.23	35.85	35.86	30.46	30.48
2003	3	5	27.53	27.55	6.22	6.23	35.86	35.87	30.47	30.49
2003	3	6	27.55	27.57	6.23	6.23	35.87	35.88	30.49	30.51

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	3	7	27.53	27.56	6.22	6.23	35.87	35.88	30.48	30.50
2003	3	8	27.51	27.53	6.21	6.23	35.88	35.89	30.46	30.49
2003	3	9	27.54	27.56	6.21	6.23	35.89	35.89	30.48	30.49
2003	3	10	27.54	27.56	6.20	6.22	35.90	35.90	30.49	30.50
2003	3	11	27.52	27.54	6.19	6.21	35.90	35.91	30.47	30.48
2003	3	12	27.53	27.56	6.20	6.22	35.91	35.92	30.47	30.48
2003	3	13	27.54	27.55	6.20	6.22	35.92	35.93	30.48	30.50
2003	3	14	27.52	27.56	6.19	6.21	35.93	35.95	30.47	30.49
2003	3	15	27.50	27.52	6.17	6.18	35.95	35.95	30.44	30.45
2003	3	16	27.46	27.50	6.11	6.14	35.94	35.95	30.36	30.40
2003	3	17	27.38	27.42	6.05	6.08	35.90	35.93	30.24	30.28
2003	3	18	27.33	27.35	6.01	6.03	35.80	35.85	30.15	30.18
2003	3	19	27.28	27.32	5.98	6.01	35.72	35.75	30.09	30.12
2003	3	20	27.24	27.27	5.95	5.97	35.67	35.69	30.04	30.06
2003	3	21	27.21	27.23	5.91	5.93	35.66	35.66	29.98	30.00
2003	3	22	27.21	27.23	5.91	5.93	35.66	35.67	29.96	29.97
2003	3	23	27.22	27.24	5.90	5.93	35.67	35.68	29.94	29.96
2003	3	24	27.19	27.21	5.89	5.90	35.68	35.68	29.93	29.93
2003	3	25	27.16	27.18	5.88	5.89	35.69	35.69	29.92	29.92
2003	3	26	27.15	27.16	5.87	5.88	35.70	35.70	29.91	29.91
2003	3	27	27.13	27.15	5.87	5.88	35.71	35.71	29.91	29.92
2003	3	28	27.10	27.12	5.84	5.86	35.72	35.72	29.89	29.90
2003	3	29	27.10	27.12	5.84	5.86	35.73	35.74	29.87	29.88
2003	3	30	27.08	27.11	5.84	5.86	35.75	35.75	29.87	29.88
2003	3	31	27.07	27.08	5.82	5.84	35.76	35.77	29.86	29.87
2003	4	1	27.05	27.08	5.81	5.84	35.77	35.78	29.83	29.86
2003	4	2	27.07	27.08	5.83	5.85	35.78	35.79	29.86	29.87
2003	4	3	27.06	27.08	5.82	5.84	35.80	35.81	29.86	29.87
2003	4	4	26.91	27.03	5.73	5.80	35.81	35.81	29.77	29.85
2003	4	5	26.85	26.88	5.70	5.73	35.82	35.82	29.67	29.69
2003	4	6	26.86	26.88	5.69	5.72	35.81	35.82	29.65	29.67
2003	4	7	26.81	26.83	5.64	5.66	35.78	35.79	29.60	29.62
2003	4	8	26.83	26.85	5.63	5.64	35.76	35.76	29.60	29.60
2003	4	9	26.82	26.85	5.61	5.63	35.75	35.76	29.59	29.60
2003	4	10	26.78	26.81	5.58	5.60	35.74	35.75	29.56	29.57
2003	4	11	26.76	26.77	5.56	5.58	35.74	35.74	29.53	29.54
2003	4	12	26.78	26.81	5.57	5.59	35.74	35.75	29.54	29.57
2003	4	13	26.79	26.81	5.58	5.58	35.75	35.75	29.58	29.59
2003	4	14	26.77	26.80	5.56	5.58	35.75	35.75	29.58	29.58
2003	4	15	26.77	26.78	5.54	5.56	35.75	35.75	29.57	29.57
2003	4	16	26.79	26.83	5.56	5.58	35.76	35.77	29.59	29.61
2003	4	17	26.79	26.81	5.55	5.57	35.78	35.79	29.61	29.62
2003	4	18	26.79	26.82	5.56	5.58	35.80	35.81	29.63	29.65
2003	4	19	26.80	26.82	5.56	5.57	35.81	35.82	29.66	29.66
2003	4	20	26.77	26.78	5.54	5.56	35.82	35.83	29.63	29.65
2003	4	21	26.77	26.79	5.52	5.54	35.83	35.84	29.55	29.58

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	4	22	26.79	26.81	5.53	5.54	35.85	35.86	29.54	29.56
2003	4	23	26.82	26.86	5.53	5.54	35.86	35.87	29.57	29.58
2003	4	24	26.81	26.83	5.52	5.53	35.87	35.88	29.57	29.58
2003	4	25	26.80	26.83	5.53	5.55	35.88	35.89	29.55	29.56
2003	4	26	26.83	26.86	5.53	5.56	35.90	35.90	29.57	29.59
2003	4	27	26.84	26.86	5.54	5.56	35.91	35.91	29.60	29.61
2003	4	28	26.84	26.88	5.54	5.57	35.92	35.93	29.61	29.63
2003	4	29	26.88	26.88	5.57	5.59	35.93	35.94	29.64	29.65
2003	4	30	26.86	26.89	5.56	5.59	35.94	35.95	29.65	29.66
2003	5	1	26.78	26.84	5.52	5.54	35.96	35.96	29.62	29.64
2003	5	2	26.72	26.75	5.52	5.54	35.97	35.98	29.62	29.63
2003	5	3	26.72	26.73	5.52	5.54	35.98	35.99	29.63	29.64
2003	5	4	26.70	26.73	5.52	5.54	35.99	35.99	29.62	29.64
2003	5	5	26.65	26.68	5.48	5.51	35.99	36.00	29.56	29.59
2003	5	6	26.62	26.64	5.49	5.51	36.01	36.01	29.57	29.58
2003	5	7	26.62	26.64	5.50	5.52	36.01	36.02	29.58	29.59
2003	5	8	26.63	26.65	5.50	5.52	36.03	36.03	29.59	29.61
2003	5	9	26.65	26.70	5.48	5.51	36.03	36.04	29.58	29.60
2003	5	10	26.67	26.69	5.46	5.48	36.05	36.05	29.55	29.56
2003	5	11	26.65	26.67	5.44	5.46	36.06	36.06	29.48	29.51
2003	5	12	26.69	26.73	5.45	5.47	36.06	36.07	29.47	29.48
2003	5	13	26.71	26.73	5.45	5.47	36.07	36.08	29.47	29.48
2003	5	14	26.73	26.74	5.45	5.46	36.08	36.09	29.47	29.48
2003	5	15	26.74	26.76	5.44	5.46	36.09	36.10	29.47	29.48
2003	5	16	26.77	26.78	5.44	5.46	36.10	36.11	29.49	29.50
2003	5	17	26.79	26.83	5.45	5.47	36.11	36.12	29.52	29.53
2003	5	18	26.79	26.81	5.47	5.49	36.12	36.13	29.54	29.55
2003	5	19	26.81	26.84	5.48	5.50	36.13	36.13	29.55	29.57
2003	5	20	26.83	26.87	5.49	5.51	36.14	36.14	29.56	29.58
2003	5	21	26.88	26.90	5.51	5.53	36.15	36.15	29.59	29.60
2003	5	22	26.88	26.92	5.53	5.55	36.16	36.16	29.60	29.61
2003	5	23	26.88	26.90	5.52	5.54	36.17	36.17	29.60	29.60
2003	5	24	26.89	26.91	5.52	5.55	36.18	36.18	29.59	29.60
2003	5	25	26.93	26.97	5.55	5.57	36.19	36.19	29.62	29.63
2003	5	26	26.95	26.97	5.57	5.58	36.19	36.20	29.64	29.65
2003	5	27	26.94	26.96	5.58	5.59	36.20	36.21	29.66	29.67
2003	5	28	26.92	26.95	5.58	5.59	36.21	36.22	29.65	29.67
2003	5	29	26.94	26.96	5.60	5.64	36.22	36.23	29.66	29.67
2003	5	30	26.93	26.95	5.62	5.65	36.23	36.24	29.67	29.68
2003	5	31	26.89	26.92	5.59	5.62	36.25	36.25	29.65	29.67
2003	6	1	26.88	26.90	5.60	5.62	36.25	36.26	29.67	29.68
2003	6	2	26.89	26.91	5.62	5.65	36.26	36.27	29.68	29.69
2003	6	3	26.89	26.91	5.63	5.65	36.27	36.27	29.67	29.68
2003	6	4	26.89	26.91	5.61	5.64	36.28	36.28	29.67	29.68
2003	6	5	26.91	26.93	5.60	5.62	36.29	36.30	29.65	29.66
2003	6	6	26.92	26.95	5.61	5.62	36.30	36.31	29.66	29.66

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	6	7	26.93	26.96	5.62	5.65	36.31	36.31	29.66	29.67
2003	6	8	26.90	26.94	5.63	5.65	36.32	36.32	29.66	29.68
2003	6	9	26.79	26.81	5.63	5.65	36.32	36.33	29.65	29.66
2003	6	10	26.76	26.80	5.63	5.66	36.33	36.33	29.65	29.66
2003	6	11	26.77	26.79	5.64	5.66	36.34	36.34	29.66	29.68
2003	6	12	26.70	26.78	5.62	5.65	36.34	36.35	29.65	29.67
2003	6	13	26.62	26.64	5.61	5.64	36.35	36.36	29.62	29.63
2003	6	14	26.65	26.68	5.63	5.66	36.36	36.36	29.63	29.65
2003	6	15	26.68	26.73	5.68	5.71	36.35	36.35	29.67	29.68
2003	6	16	26.71	26.73	5.71	5.73	36.35	36.36	29.70	29.72
2003	6	17	26.71	26.73	5.71	5.74	36.36	36.36	29.71	29.72
2003	6	18	26.71	26.73	5.69	5.72	36.36	36.37	29.72	29.74
2003	6	19	26.76	26.79	5.60	5.61	36.37	36.37	29.72	29.75
2003	6	20	26.78	26.80	5.60	5.63	36.37	36.38	29.75	29.76
2003	6	21	26.83	26.88	5.62	5.64	36.38	36.38	29.77	29.79
2003	6	22	26.85	26.89	5.64	5.67	36.39	36.39	29.80	29.81
2003	6	23	26.91	26.97	5.68	5.71	36.39	36.39	29.83	29.85
2003	6	24	26.97	27.03	5.74	5.76	36.40	36.40	29.87	29.89
2003	6	25	27.03	27.07	5.75	5.76	36.40	36.41	29.90	29.92
2003	6	26	27.04	27.07	5.75	5.77	36.41	36.41	--	--
2003	6	27	27.08	27.11	5.77	5.79	36.42	36.42	29.95	29.97
2003	6	28	27.11	27.16	5.78	5.82	36.42	36.43	29.97	29.98
2003	6	29	27.13	27.17	5.77	5.79	36.43	36.43	30.00	30.02
2003	6	30	27.17	27.22	5.81	5.83	36.43	36.44	30.04	30.06
2003	7	1	27.20	27.25	5.84	5.87	36.44	36.44	30.07	30.08
2003	7	2	27.22	27.27	5.88	5.92	36.44	36.45	30.09	30.10
2003	7	3	27.27	27.28	5.92	5.93	36.45	36.46	30.12	30.14
2003	7	4	27.30	27.34	5.91	5.95	36.46	36.47	30.15	30.16
2003	7	5	27.33	27.35	5.88	5.90	36.47	36.47	30.17	30.18
2003	7	6	27.34	27.36	5.88	5.91	36.47	36.48	30.18	30.19
2003	7	7	27.36	27.42	5.89	5.91	36.48	36.48	30.19	30.20
2003	7	8	27.37	27.38	5.93	5.95	36.49	36.49	30.21	30.22
2003	7	9	27.38	27.41	5.91	5.93	36.49	36.49	30.23	30.24
2003	7	10	27.37	27.39	5.90	5.92	36.49	36.49	30.21	30.23
2003	7	11	27.39	27.42	5.90	5.91	36.50	36.50	30.20	30.22
2003	7	12	27.42	27.45	5.92	5.95	36.51	36.51	30.24	30.26
2003	7	13	27.46	27.52	5.97	5.99	36.51	36.52	30.27	30.28
2003	7	14	27.47	27.51	6.00	6.03	36.52	36.52	30.29	30.30
2003	7	15	27.47	27.49	6.01	6.03	36.53	36.53	30.29	30.31
2003	7	16	27.53	27.59	6.06	6.08	36.54	36.54	30.32	30.33
2003	7	17	27.55	27.57	6.07	6.09	36.54	36.55	30.35	30.37
2003	7	18	27.59	27.62	6.09	6.12	36.55	36.56	30.37	30.39
2003	7	19	27.63	27.67	6.13	6.17	36.56	36.56	30.40	30.41
2003	7	20	27.63	27.67	6.15	6.16	36.57	36.57	30.41	30.42
2003	7	21	27.59	27.67	6.11	6.13	36.57	36.58	30.41	30.43
2003	7	22	27.48	27.50	6.11	6.13	36.58	36.59	30.40	30.41

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	7	23	27.46	27.47	6.14	6.17	36.59	36.60	30.42	30.43
2003	7	24	27.49	27.55	6.19	6.23	36.60	36.61	30.44	30.46
2003	7	25	27.52	27.56	6.23	6.25	36.61	36.61	30.46	30.47
2003	7	26	27.54	27.58	6.23	6.26	36.62	36.62	30.47	30.49
2003	7	27	27.55	27.60	6.24	6.29	36.63	36.63	30.49	30.52
2003	7	28	27.61	27.67	6.28	6.31	36.63	36.64	30.53	30.54
2003	7	29	27.64	27.67	6.31	6.36	36.64	36.65	30.55	30.56
2003	7	30	27.66	27.69	6.35	6.37	36.65	36.66	30.57	30.59
2003	7	31	27.69	27.74	6.37	6.38	36.66	36.67	30.60	30.61
2003	8	1	27.71	27.74	6.38	6.41	36.67	36.68	30.61	30.64
2003	8	2	27.72	27.74	6.33	6.34	36.68	36.69	30.59	30.60
2003	8	3	27.72	27.74	6.34	6.35	36.69	36.69	30.59	30.59
2003	8	4	27.67	27.69	6.31	6.33	36.70	36.70	30.59	30.60
2003	8	5	27.66	27.68	6.32	6.34	36.71	36.71	30.60	30.62
2003	8	6	27.68	27.71	6.36	6.38	36.71	36.72	30.62	30.63
2003	8	7	27.71	27.73	6.39	6.41	36.72	36.73	30.64	30.66
2003	8	8	27.73	27.74	6.41	6.43	36.73	36.74	30.67	30.69
2003	8	9	27.73	27.75	6.44	6.47	36.74	36.75	30.69	30.71
2003	8	10	27.71	27.72	6.48	6.50	36.75	36.75	30.71	30.72
2003	8	11	27.72	27.75	6.47	6.50	36.76	36.76	30.72	30.74
2003	8	12	27.74	27.77	6.48	6.51	36.77	36.77	30.74	30.75
2003	8	13	27.73	27.74	6.44	6.46	36.78	36.78	30.75	30.76
2003	8	14	27.73	27.75	6.47	6.50	36.78	36.79	30.76	30.77
2003	8	15	27.71	27.74	6.41	6.44	36.79	36.79	30.73	30.76
2003	8	16	27.73	27.78	6.39	6.41	36.79	36.80	30.64	30.67
2003	8	17	27.78	27.83	6.43	6.46	36.79	36.80	30.63	30.63
2003	8	18	27.80	27.84	6.48	6.50	36.80	36.81	30.64	30.66
2003	8	19	27.83	27.86	6.52	6.54	36.81	36.82	30.66	30.67
2003	8	20	27.85	27.91	6.55	6.57	36.82	36.83	30.68	30.70
2003	8	21	27.87	27.90	6.57	6.59	36.83	36.84	30.69	30.70
2003	8	22	27.89	27.91	6.58	6.60	36.84	36.85	30.71	30.72
2003	8	23	27.91	27.93	6.63	6.65	36.85	36.86	30.74	30.75
2003	8	24	27.91	27.94	6.64	6.66	36.86	36.86	30.75	30.76
2003	8	25	27.93	27.95	6.65	6.67	36.87	36.87	30.77	30.78
2003	8	26	27.91	27.94	6.61	6.65	36.88	36.88	30.77	30.78
2003	8	27	27.92	27.99	6.62	6.66	36.89	36.89	30.77	30.78
2003	8	28	27.93	27.95	6.66	6.68	36.89	36.90	30.78	30.79
2003	8	29	27.94	27.98	6.68	6.70	36.91	36.91	30.79	30.82
2003	8	30	27.99	28.01	6.71	6.73	36.92	36.92	30.83	30.84
2003	8	31	27.99	28.00	6.72	6.73	36.92	36.93	30.84	30.85
2003	9	1	27.99	28.00	6.68	6.71	36.93	36.94	30.84	30.85
2003	9	2	27.98	28.01	6.64	6.65	36.94	36.95	30.84	30.85
2003	9	3	27.99	28.01	6.66	6.67	36.95	36.96	30.85	30.85
2003	9	4	28.01	28.03	6.68	6.70	36.96	36.96	30.85	30.86
2003	9	5	28.03	28.05	6.70	6.71	36.97	36.98	30.87	30.88
2003	9	6	28.08	28.14	6.72	6.74	36.98	36.98	30.89	30.90

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	9	7	28.08	28.10	6.75	6.78	36.99	36.99	30.91	30.92
2003	9	8	28.09	28.11	6.77	6.79	37.00	37.00	30.93	30.94
2003	9	9	28.11	28.14	--	--	37.01	37.01	30.95	30.96
2003	9	10	28.12	28.17	--	--	37.02	37.02	30.96	30.98
2003	9	11	28.15	28.19	--	--	37.03	37.03	30.98	30.99
2003	9	12	28.15	28.18	--	--	37.04	37.04	30.99	31.01
2003	9	13	28.18	28.23	--	--	37.05	37.05	31.01	31.02
2003	9	14	28.20	28.21	--	--	37.05	37.06	31.03	31.03
2003	9	15	28.19	28.20	--	--	37.06	37.07	31.03	31.03
2003	9	16	28.18	28.19	--	--	37.07	37.08	31.04	31.05
2003	9	17	28.19	28.22	--	--	37.08	37.09	31.05	31.06
2003	9	18	28.19	28.21	--	--	37.09	37.10	31.06	31.06
2003	9	19	28.18	28.21	--	--	37.10	37.11	31.05	31.06
2003	9	20	28.21	28.23	--	--	37.11	37.12	31.07	31.08
2003	9	21	28.20	28.22	--	--	37.12	37.12	31.08	31.08
2003	9	22	28.13	28.20	--	--	37.13	37.13	31.02	31.07
2003	9	23	28.05	28.07	--	--	37.14	37.14	30.96	30.97
2003	9	24	28.01	28.05	--	--	37.15	37.15	30.93	30.95
2003	9	25	27.97	28.00	--	--	37.16	37.16	30.89	30.92
2003	9	26	27.92	27.96	--	--	37.16	37.17	30.86	30.88
2003	9	27	27.89	27.90	--	--	37.17	37.18	30.84	30.85
2003	9	28	27.89	27.91	--	--	37.18	37.18	30.84	30.85
2003	9	29	27.90	27.92	--	--	37.18	37.19	30.86	30.86
2003	9	30	27.90	27.91	--	--	37.19	37.19	30.86	30.86
2003	10	1	27.90	27.92	--	--	37.20	37.20	30.86	30.86
2003	10	2	27.90	27.92	6.63	6.64	37.21	37.21	30.86	30.87
2003	10	3	27.87	27.90	6.60	6.63	37.21	37.22	30.83	30.86
2003	10	4	27.88	27.89	6.60	6.62	37.22	37.23	30.83	30.84
2003	10	5	27.89	27.91	6.62	6.63	37.23	37.23	30.84	30.85
2003	10	6	27.90	27.92	6.62	6.64	37.23	37.24	30.85	30.86
2003	10	7	27.89	27.91	6.62	6.64	37.24	37.25	30.85	30.86
2003	10	8	27.89	27.91	6.63	6.65	37.25	37.25	30.86	30.86
2003	10	9	27.89	27.91	6.64	6.67	37.26	37.26	30.86	30.87
2003	10	10	27.87	27.89	6.65	6.66	37.26	37.27	30.86	30.87
2003	10	11	27.87	27.89	6.64	6.65	37.27	37.28	30.87	30.88
2003	10	12	27.86	27.89	6.64	6.67	37.28	37.29	30.87	30.88
2003	10	13	27.86	27.88	6.65	6.66	37.29	37.29	30.88	30.88
2003	10	14	27.82	27.85	6.59	6.64	37.29	37.30	30.83	30.87
2003	10	15	27.80	27.82	6.53	6.54	37.30	37.31	30.80	30.81
2003	10	16	27.80	27.80	6.52	6.53	37.31	37.32	30.79	30.79
2003	10	17	27.79	27.80	6.52	6.53	37.32	37.32	30.79	30.79
2003	10	18	27.78	27.80	6.50	6.51	37.32	37.33	30.77	30.78
2003	10	19	27.82	27.84	6.51	6.52	37.33	37.34	30.77	30.78
2003	10	20	27.79	27.83	6.49	6.51	37.34	37.34	30.75	30.77
2003	10	21	27.78	27.80	6.50	6.51	37.35	37.35	30.74	30.75
2003	10	22	27.77	27.80	6.50	6.51	37.35	37.36	30.75	30.76

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	10	23	27.77	27.80	6.50	6.51	37.36	37.36	30.77	30.78
2003	10	24	27.78	27.80	6.51	6.51	37.37	37.37	30.79	30.80
2003	10	25	27.76	27.79	6.48	6.51	37.38	37.39	30.77	30.80
2003	10	26	27.73	27.75	6.44	6.46	37.39	37.39	30.74	30.76
2003	10	27	27.70	27.73	6.43	6.45	37.39	37.40	30.72	30.74
2003	10	28	27.69	27.71	6.42	6.44	37.40	37.41	30.70	30.71
2003	10	29	27.70	27.71	6.43	6.45	37.41	37.41	30.71	30.73
2003	10	30	27.70	27.73	6.42	6.45	37.42	37.42	30.73	30.74
2003	10	31	27.70	27.72	6.43	6.44	37.42	37.43	30.73	30.74
2003	11	1	27.70	27.72	6.43	6.44	37.43	37.43	30.75	30.75
2003	11	2	27.63	27.70	6.37	6.42	37.44	37.44	30.70	30.74
2003	11	3	27.53	27.59	6.33	6.36	37.44	37.45	30.65	30.67
2003	11	4	27.45	27.48	6.30	6.32	37.45	37.46	30.60	30.62
2003	11	5	27.46	27.48	6.31	6.33	37.46	37.46	30.58	30.58
2003	11	6	27.44	27.47	6.30	6.32	37.46	37.46	30.56	30.58
2003	11	7	27.44	27.47	6.29	6.31	37.46	37.46	30.55	30.57
2003	11	8	27.46	27.48	6.31	6.33	37.46	37.46	30.57	30.58
2003	11	9	27.45	27.47	6.31	6.33	37.47	37.47	30.56	30.58
2003	11	10	27.42	27.45	6.28	6.30	37.47	37.47	30.55	30.56
2003	11	11	27.39	27.42	6.24	6.27	37.47	37.47	30.51	30.53
2003	11	12	27.38	27.41	6.23	6.26	37.47	37.48	30.48	30.50
2003	11	13	27.43	27.46	6.26	6.28	37.48	37.48	30.51	30.53
2003	11	14	27.42	27.46	6.25	6.27	37.48	37.49	30.51	30.52
2003	11	15	27.42	27.43	6.25	6.26	37.49	37.49	30.51	30.52
2003	11	16	27.41	27.42	6.24	6.26	37.49	37.49	30.52	30.52
2003	11	17	27.41	27.42	6.24	6.26	37.50	37.50	30.53	30.53
2003	11	18	27.33	27.40	6.18	6.23	37.50	37.50	30.46	30.51
2003	11	19	27.27	27.30	6.16	6.19	37.50	37.51	30.40	30.42
2003	11	20	27.25	27.28	6.16	6.19	37.51	37.51	30.38	30.39
2003	11	21	27.25	27.28	6.16	6.18	37.51	37.51	30.37	30.38
2003	11	22	27.24	27.27	6.15	6.17	37.51	37.51	30.36	30.37
2003	11	23	27.22	27.24	6.13	6.16	37.51	37.51	30.34	30.36
2003	11	24	27.18	27.20	6.11	6.14	37.51	37.52	30.31	30.32
2003	11	25	27.17	27.20	6.11	6.13	37.52	37.52	30.31	30.32
2003	11	26	27.16	27.18	6.11	6.12	37.52	37.52	30.31	30.31
2003	11	27	27.15	27.18	6.09	6.11	37.52	37.52	30.30	30.31
2003	11	28	27.12	27.16	6.06	6.10	37.53	37.53	30.27	30.30
2003	11	29	27.09	27.12	6.05	6.07	37.53	37.53	30.26	30.27
2003	11	30	27.07	27.09	6.04	6.05	37.53	37.53	30.24	30.24
2003	12	1	27.10	27.12	6.06	6.07	37.53	37.53	30.26	30.28
2003	12	2	27.10	27.12	6.06	6.07	37.53	37.53	30.28	30.29
2003	12	3	27.09	27.11	6.05	6.07	37.53	37.53	30.28	30.29
2003	12	4	27.06	27.09	6.03	6.04	37.53	37.53	30.26	30.27
2003	12	5	27.06	27.09	6.03	6.05	37.53	37.53	30.25	30.27
2003	12	6	27.07	27.10	6.03	6.05	37.52	37.52	30.27	30.27
2003	12	7	27.06	27.09	6.03	6.05	37.51	37.52	30.27	30.28

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2003	12	8	27.06	27.08	6.03	6.04	37.50	37.51	30.28	30.29
2003	12	9	27.05	27.08	6.02	6.04	37.50	37.50	30.28	30.29
2003	12	10	27.01	27.05	5.99	6.02	37.49	37.49	30.24	30.28
2003	12	11	27.04	27.08	6.00	6.02	37.49	37.50	30.24	30.26
2003	12	12	27.05	27.07	6.01	6.02	37.49	37.49	30.27	30.28
2003	12	13	27.04	27.08	6.01	6.02	37.48	37.48	30.28	30.29
2003	12	14	26.99	27.02	5.98	6.00	37.47	37.47	30.24	30.26
2003	12	15	27.01	27.04	6.01	6.02	37.47	37.47	30.25	30.26
2003	12	16	26.98	27.00	5.99	6.01	37.46	37.47	30.23	30.24
2003	12	17	26.98	27.00	5.99	6.00	37.46	37.46	30.23	30.24
2003	12	18	26.98	27.00	5.99	6.01	37.46	37.46	30.23	30.25
2003	12	19	26.95	26.97	5.99	6.02	37.45	37.45	30.25	30.27
2003	12	20	26.95	26.97	6.01	6.03	37.45	37.45	30.29	30.30
2003	12	21	26.90	26.93	5.99	6.01	37.45	37.45	30.28	30.29
2003	12	22	26.89	26.92	5.99	6.00	37.44	37.45	30.27	30.28
2003	12	23	26.86	26.90	5.95	5.99	37.44	37.44	30.24	30.28
2003	12	24	26.82	26.85	5.95	5.97	37.44	37.44	30.22	30.23
2003	12	25	26.81	26.83	5.95	5.97	37.43	37.44	30.21	30.22
2003	12	26	26.82	26.85	5.96	5.98	37.43	37.43	30.23	30.23
2003	12	27	26.79	26.81	5.95	5.97	37.42	37.43	30.22	30.23
2003	12	28	26.76	26.78	5.92	5.94	37.42	37.42	30.19	30.20
2003	12	29	26.69	26.76	5.89	5.92	37.42	37.42	30.15	30.18
2003	12	30	26.65	26.67	5.89	5.91	37.41	37.42	30.13	30.13
2003	12	31	26.63	26.67	5.88	5.90	37.41	37.41	30.09	30.11
2004	1	1	26.63	26.67	5.88	5.90	37.40	37.40	30.08	30.10
2004	1	2	26.56	26.59	5.84	5.85	37.39	37.39	30.03	30.05
2004	1	3	26.57	26.60	5.84	5.86	37.39	37.39	30.02	30.04
2004	1	4	26.58	26.60	5.84	5.86	37.38	37.39	30.02	30.03
2004	1	5	26.57	26.60	5.85	5.87	37.38	37.38	30.01	30.03
2004	1	6	26.59	26.62	--	--	37.37	37.37	30.03	30.04
2004	1	7	26.59	26.60	--	--	37.36	37.37	30.04	30.05
2004	1	8	26.58	26.60	--	--	37.35	37.36	30.04	30.05
2004	1	9	26.61	26.64	--	--	37.34	37.35	30.06	30.08
2004	1	10	26.60	26.64	--	--	37.34	37.34	30.06	30.08
2004	1	11	26.55	26.57	--	--	37.33	37.34	30.02	30.05
2004	1	12	26.57	26.59	--	--	37.33	37.33	30.04	30.06
2004	1	13	26.59	26.62	5.81	5.83	37.32	37.33	30.07	30.09
2004	1	14	26.53	26.59	5.77	5.81	37.31	37.32	30.04	30.08
2004	1	15	26.59	26.61	5.80	5.82	37.31	37.31	30.08	30.10
2004	1	16	26.58	26.61	5.80	5.81	37.30	37.31	30.11	30.12
2004	1	17	26.52	26.58	5.76	5.79	37.29	37.30	30.07	30.11
2004	1	18	26.53	26.59	5.77	5.80	37.29	37.29	30.06	30.09
2004	1	19	26.57	26.59	5.79	5.82	37.29	37.29	30.10	30.12
2004	1	20	26.58	26.62	5.79	5.81	37.28	37.28	30.13	30.14
2004	1	21	26.53	26.59	5.76	5.80	37.27	37.28	30.10	30.14
2004	1	22	26.56	26.59	5.78	5.81	37.27	37.28	30.11	30.14

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2004	1	23	26.56	26.59	5.76	5.79	37.27	37.27	30.12	30.13
2004	1	24	26.58	26.62	5.78	5.80	37.26	37.27	30.14	30.17
2004	1	25	26.58	26.63	5.77	5.80	37.26	37.26	30.16	30.18
2004	1	26	26.55	26.57	5.76	5.77	37.25	37.26	30.14	30.15
2004	1	27	26.51	26.57	5.74	5.77	37.25	37.25	30.11	30.13
2004	1	28	26.56	26.58	5.77	5.78	37.25	37.25	30.15	30.16
2004	1	29	26.56	26.58	5.76	5.77	37.24	37.25	30.16	30.17
2004	1	30	26.54	26.56	5.75	5.77	37.24	37.24	30.15	30.17
2004	1	31	26.58	26.62	5.77	5.80	37.24	37.24	30.18	30.21
2004	2	1	26.60	26.62	5.78	5.80	37.24	37.24	30.22	30.22
2004	2	2	26.55	26.61	5.75	5.78	37.23	37.24	30.19	30.22
2004	2	3	26.52	26.59	5.74	5.79	37.23	37.24	30.16	30.20
2004	2	4	26.60	26.63	5.78	5.80	37.23	37.24	30.22	30.23
2004	2	5	26.56	26.63	5.75	5.79	37.23	37.24	30.21	30.24
2004	2	6	26.49	26.52	5.72	5.74	37.23	37.23	30.14	30.17
2004	2	7	26.55	26.59	5.76	5.79	37.23	37.23	30.17	30.21
2004	2	8	26.58	26.61	5.77	5.80	37.23	37.23	30.22	30.23
2004	2	9	26.53	26.56	5.74	5.76	37.23	37.23	30.18	30.20
2004	2	10	26.53	26.57	5.74	5.77	37.23	37.23	30.18	30.21
2004	2	11	26.55	26.56	5.76	5.77	37.23	37.23	30.21	30.21
2004	2	12	26.54	26.56	5.75	5.77	37.22	37.23	30.21	30.22
2004	2	13	26.53	26.55	5.73	5.75	37.23	37.24	30.20	30.21
2004	2	14	26.54	26.58	5.74	5.77	37.24	37.24	30.20	30.23
2004	2	15	26.58	26.61	5.77	5.79	37.24	37.24	30.24	30.25
2004	2	16	26.59	26.60	5.77	5.79	37.24	37.24	30.26	30.26
2004	2	17	26.56	26.58	5.76	5.78	37.24	37.24	30.25	30.25
2004	2	18	26.53	26.58	5.75	5.78	37.24	37.24	30.22	30.25
2004	2	19	26.52	26.54	5.74	5.76	37.24	37.24	30.20	30.21
2004	2	20	26.47	26.54	5.71	5.75	37.24	37.24	30.15	30.20
2004	2	21	26.51	26.54	5.73	5.76	37.24	37.25	30.16	30.19
2004	2	22	26.54	26.56	5.74	5.76	37.25	37.25	30.18	30.19
2004	2	23	26.50	26.54	5.71	5.74	37.25	37.25	30.15	30.17
2004	2	24	26.50	26.54	5.70	5.72	37.25	37.25	30.14	30.15
2004	2	25	26.49	26.51	5.71	5.72	37.25	37.25	30.14	30.15
2004	2	26	26.47	26.49	5.69	5.71	37.25	37.25	30.12	30.13
2004	2	27	26.46	26.49	5.69	5.70	37.25	37.25	30.11	30.13
2004	2	28	26.44	26.47	5.68	5.68	37.26	37.26	30.10	30.11
2004	2	29	26.41	26.44	5.66	5.67	37.26	37.26	30.06	30.07
2004	3	1	26.39	26.42	5.64	5.67	37.26	37.26	30.00	30.03
2004	3	2	26.38	26.41	5.62	5.64	37.26	37.26	29.95	29.96
2004	3	3	26.36	26.40	5.60	5.63	37.26	37.26	29.92	29.94
2004	3	4	26.33	26.35	5.57	5.59	37.25	37.25	29.87	29.89
2004	3	5	26.19	26.28	5.51	5.54	37.24	37.25	29.77	29.83
2004	3	6	26.25	26.29	5.52	5.53	37.24	37.24	29.72	29.74
2004	3	7	26.22	26.27	5.48	5.53	37.24	37.24	29.67	29.71
2004	3	8	26.26	26.28	5.48	5.50	37.23	37.24	29.65	29.66

Table 7. Daily mean and maximum depth, in feet, of water below land surface in four monitoring wells in Oakland County, Michigan, June 2001 through March 2004 - continued
[--, no data]

Year	Month	Day	Holly State Rec. Area 425116083321501		Proud Lake State Rec. Area 423423083324001		Fish Lake Road 424109083384301		Teggerdine Road 424133083293101	
			Mean	Maximum	Mean	Maximum	Mean	Maximum	Mean	Maximum
2004	3	9	26.26	26.29	5.46	5.48	37.23	37.23	29.64	29.65
2004	3	10	26.24	26.27	5.45	5.47	37.22	37.22	29.63	29.64
2004	3	11	26.19	26.24	5.41	5.43	37.21	37.22	29.59	29.61
2004	3	12	26.25	26.29	5.42	5.44	37.21	37.21	29.60	29.62
2004	3	13	26.27	26.32	5.43	5.45	37.20	37.21	29.64	29.65
2004	3	14	26.21	26.25	5.39	5.41	37.20	37.21	29.59	29.61
2004	3	15	26.27	26.30	5.41	5.43	37.20	37.21	29.63	29.65
2004	3	16	26.24	26.26	5.38	5.40	37.19	37.19	29.61	29.63
2004	3	17	26.24	26.27	5.37	5.38	37.19	37.19	29.61	29.62
2004	3	18	26.25	26.28	5.37	5.40	37.18	37.19	29.63	29.65
2004	3	19	26.28	26.32	5.38	5.40	37.18	37.19	29.67	29.69
2004	3	20	26.18	26.24	5.32	5.37	37.18	37.19	29.60	29.65
2004	3	21	26.22	26.24	5.34	5.36	37.17	37.18	29.61	29.62
2004	3	22	26.22	26.26	5.34	5.36	37.17	37.17	29.61	29.63
2004	3	23	26.21	26.24	5.32	5.34	37.17	37.17	29.60	29.61
2004	3	24	26.20	26.24	5.31	5.33	37.16	37.16	29.59	29.60
2004	3	25	26.19	26.21	5.28	5.30	37.16	37.16	29.58	29.59
2004	3	26	26.14	26.21	5.26	5.27	37.14	37.15	29.55	29.56
2004	3	27	26.13	26.15	5.26	5.27	37.14	37.14	29.53	29.54
2004	3	28	26.11	26.14	5.24	5.26	37.13	37.14	29.51	29.52
2004	3	29	26.11	26.13	5.24	5.25	37.13	37.13	29.50	29.50
2004	3	30	26.11	26.13	5.22	5.24	37.12	37.13	29.49	29.50
2004	3	31	26.11	26.14	5.22	5.23	37.12	37.12	29.48	29.49

Table 8. Measured depth, in feet, to water in monitoring well 424133083293201 Oakland County, Michigan.

Date	Time	Depth
April 9, 2001	1530	8.40
June 13, 2001	1715	8.55
June 22, 2001	1315	9.36
July 7, 2001	1145	10.16
July 13, 2001	1334	10.45
July 25, 2001	915	10.90
August 17, 2001	1230	11.41
September 4, 2001	1320	11.06
October 23, 2001	940	9.16
January 4, 2002	1527	9.21
April 25, 2002	1515	8.59
June 21, 2002	1330	9.73
July 30, 2002	1103	11.06
September 6, 2002	1403	11.64
September 19, 2002	927	11.89
October 31, 2002	1315	11.33
December 6, 2002	1100	10.63
January 13, 2003	1100	10.57
February 21, 2003	1600	10.55
March 25, 2003	1730	10.05
April 21, 2003	1400	9.53
June 2, 2003	830	10.30
June 26, 2003	1500	10.98
August 15, 2003	1050	11.65
September 8, 2003	915	12.36
October 8, 2003	1000	11.75
November 18, 2003	1510	10.51
December 15, 2003	945	10.27

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Sample time	Discharge, cfs	Redox potential, millivolts	Dissolved oxygen, mg/L	pH, standard units	Specific conductance, $\mu\text{S}/\text{cm}$ @ 25°C	Water temperature, degrees C
04143830	09-17-2001	1415	14	--	9.7	7.8	544	19.1
04143830	09-19-2001	1445	32	--	7.8	7.7	500	18.6
04143830	11-14-2001	930	--	--	12.2	7.7	567	7.4
04143830	01-24-2002	1500	42	--	13.9	7.6	604	1.1
04143830	03-11-2002	1545	116	--	14.6	7.5	535	1.8
04143830	04-29-2002	1345	--	--	--	8.3	522	--
04143830	06-06-2002	1430	--	--	8.3	7.8	454	18.8
04143830	07-10-2002	858	14	--	5.5	8.0	478	23.0
04143830	08-21-2002	1545	21	166	8.8	8.0	522	24.8
04143830	11-11-2002	900	25	166	9.6	7.8	542	9.7
04143830	12-11-2002	1600	15	--	--	8.0	651	0.6
04143830	01-28-2003	930	20	--	12	7.7	680	-0.2
04143830	04-22-2003	900	41	--	8.4	7.7	539	10.0
04143830	05-20-2003	1000	40	--	7.2	8.0	526	19.1
04143830	06-12-2003	1430	44	--	8.1	7.6	481	17.7
04143830	07-23-2003	845	7.2	347	5.8	7.4	542	20.5
04143830	08-05-2003	1845	9.7	522	7.4	8.1	590	25.8
04143830	09-09-2003	900	4.5	382	6.2	7.6	571	19.6
04148035	07-10-2002	1042	5.1	--	8.2	7.8	776	17.0
04148035	08-21-2002	1430	6.8	182	8.8	7.8	755	17.9
04148035	12-11-2002	1445	6.8	--	--	8.0	802	0.6
04148035	04-22-2003	1030	38	323	9.2	7.8	639	8.5
04148035	06-12-2003	1600	32	--	8.2	7.5	594	15.6
04148035	07-23-2003	1715	6.2	355	7.9	7.9	747	18.4
04148035	08-05-2003	1745	6.1	551	8.4	8.1	784	20.4
04148035	09-09-2003	1000	4.2	332	8.4	8.0	806	14.8
04160800	09-17-2001	830	1.6	--	7.8	7.6	712	12.8
04160800	04-29-2002	930	--	--	--	8.1	655	--
04160800	06-04-2002	945	31	--	11.5	7.6	515	13.5
04160800	07-08-2002	1046	3.8	--	--	8.2	610	--
04160800	08-20-2002	850	1.3	--	--	8.1	707	--
04160800	12-12-2002	1000	1.8	--	8.9	7.2	781	-0.1
04160800	02-02-2003	1700	3.2	--	11.8	7.5	729	-0.2
04160800	04-22-2003	1500	14	304	9.8	7.7	741	8.8
04160800	05-20-2003	1130	8.5	--	7.4	7.8	E720	17.1
04160800	06-11-2003	945	12	--	8.2	7.4	754	17.4
04160800	06-12-2003	1715	20	--	7.6	7.4	694	16.4
04160800	07-23-2003	1015	1.4	392	7.3	7.8	648	18.4
04160800	08-05-2003	1930	2.2	519	6.6	8.0	661	23.5
04160800	09-09-2003	1130	0.55	--	8.3	8.1	675	18.5

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Calcium, wf, mg/L	Magnesium, wf mg/L	Potassium, wf mg/L	Sodium, wf mg/L	Alkalinity, wf,i mg/L as CaCO ₃	Bicarbonate, wf, mg/L	Chloride, wf mg/L
04143830	09-17-2001	48.2	24.7	2.6	26.5	192	234	54
04143830	09-19-2001	42.9	22.5	3.0	21.7	156	190	44
04143830	11-14-2001	64.6	23.0	2.1	19.5	208	254	42
04143830	01-24-2002	69.7	22.8	2.0	19.1	222	271	40
04143830	03-11-2002	59.5	19.2	1.5	17	--	--	35
04143830	04-29-2002	60.3	21.3	1.6	18.7	200	--	39
04143830	06-06-2002	51.8	19.1	1.3	14.1	184	225	31
04143830	07-10-2002	37.7	22.5	2.0	25.5	114	139	47
04143830	08-21-2002	55.3	23.8	2.5	23.8	172	210	45
04143830	11-11-2002	60.5	24.8	2.0	19.5	222	--	37
04143830	12-11-2002	73.3	26.6	2.9	24.8	240	293	47
04143830	01-28-2003	86.2	29.4	2.5	25.8	289	--	44
04143830	04-22-2003	64.8	21.1	2.6	17.6	214	261	38
04143830	05-20-2003	60.4	21.9	2.1	19.8	188	229	40
04143830	06-12-2003	54.2	19.5	2.0	22.8	172	210	43
04143830	07-23-2003	49.0	23.3	3.2	31.7	184	224	59
04143830	08-05-2003	48.8	25.2	3.4	36.7	E168	205	67
04143830	09-09-2003	46.2	25.6	4.2	32.5	196	239	66
04148035	07-10-2002	83.7	27.9	1.6	39.9	264	322	78
04148035	08-21-2002	85.2	27.3	2.0	39.9	274	334	77
04148035	12-11-2002	90.1	28.6	2.1	40.1	266	324	79
04148035	04-22-2003	71.1	21.9	2.8	29.9	212	258	65
04148035	06-12-2003	71.1	21.5	1.9	27.7	204	245	55
04148035	07-23-2003	84.1	25.9	1.9	43.6	264	322	82
04148035	08-05-2003	85.8	26.7	2.1	45.5	262	320	85
04148035	09-09-2003	85.7	27.6	2.0	45.4	270	330	90
04160800	09-17-2001	80.5	22.4	2.1	32.9	230	281	75
04160800	04-29-2002	68.1	17.7	1.9	42.3	496	--	85
04160800	06-04-2002	52.0	13.5	1.8	31.9	152	185	63
04160800	07-08-2002	60.9	19.1	1.5	35.6	295	360	73
04160800	08-20-2002	77.2	22.6	2.3	37.6	227	277	84
04160800	12-12-2002	92.0	24.1	2.2	35	244	298	82
04160800	02-02-2003	86.4	22.1	2.0	32.3	266	325	72
04160800	04-22-2003	70.2	17.4	2.7	56.8	164	201	112
04160800	05-20-2003	73.2	18.5	2.2	47.9	178	217	99
04160800	06-11-2003	73.3	17.8	1.9	57.4	176	215	110
04160800	06-12-2003	70.1	17.2	2.0	50.7	180	220	101
04160800	07-23-2003	74.3	21.1	1.9	36.1	200	244	81
04160800	08-05-2003	72.9	20.8	2.1	36.5	212	259	81
04160800	09-09-2003	74.1	22.9	2.3	34.8	212	258	81

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Fluoride, wf mg/L	Silica, wf mg/L	Sulfate, wf mg/L	Dissolved iron, µg/L	Dissolved manganese, µg/L	Residue of evaporation @ 180°C, mg/L	Dissolved ammonia + organic N, mg/L as N
04143830	09-17-2001	0.2	13.2	18.0	45	16.7	318	0.44
04143830	09-19-2001	0.2	11.9	16.5	31	45.7	289	0.5
04143830	11-14-2001	0.2	9.6	24.7	30	15.2	334	0.33
04143830	01-24-2002	0.2	9.6	22.1	30	23.4	362	0.28
04143830	03-11-2002	0.2	7.5	19.1	22	8.3	298	0.27
04143830	04-29-2002	0.2	4.7	16.2	70	29.3	310	0.37
04143830	06-06-2002	0.2	7.1	12.7	52	14.6	301	0.46
04143830	07-10-2002	0.2	19.1	13.1	59	19.9	286	0.55
04143830	08-21-2002	0.2	18.1	16.8	48	10.3	350	0.61
04143830	11-11-2002	0.2	11.1	21.8	31	20.8	322	0.3
04143830	12-11-2002	0.2	12.1	24.2	42	15.7	401	0.45
04143830	01-28-2003	0.2	14.0	25.8	33	21.1	413	0.36
04143830	04-22-2003	0.2	5.5	21.9	79	82.7	319	0.46
04143830	05-20-2003	0.2	6.3	19.1	101	47.8	325	0.56
04143830	06-12-2003	0.2	7.0	14.9	90	51.1	290	0.54
04143830	07-23-2003	0.3	16.5	16.2	46	40.2	342	0.66
04143830	08-05-2003	0.3	18.4	17.0	47	25.3	382	0.8
04143830	09-09-2003	0.3	15.2	20.8	56	34.6	343	0.55
04148035	07-10-2002	0.2	14.5	26.8	66	66.8	458	0.29
04148035	08-21-2002	0.2	15.4	27.1	52	68.2	505	0.26
04148035	12-11-2002	0.2	12.0	34.7	39	65.7	497	0.24
04148035	04-22-2003	0.2	5.5	33.2	103	47.4	388	0.53
04148035	06-12-2003	0.2	9.2	24.7	121	78.9	370	0.57
04148035	07-23-2003	0.3	14.4	27.2	55	57.3	474	0.34
04148035	08-05-2003	0.3	13.8	28.3	41	44.7	516	0.28
04148035	09-09-2003	0.3	15.0	29.4	47	53.8	493	0.23
04160800	09-17-2001	E.2	8.7	30.7	88	89.1	413	0.44
04160800	04-29-2002	E.10	3.5	21.2	172	60.7	392	0.48
04160800	06-04-2002	E.10	4.2	16.4	194	125	304	0.64
04160800	07-08-2002	<.10	6.8	19.8	110	56.9	378	0.53
04160800	08-20-2002	0.2	10.5	30.0	120	70.8	447	0.38
04160800	12-12-2002	<.17	10.4	44.8	86	101	471	0.46
04160800	02-02-2003	0.1	9.8	36.4	97	164	426	0.52
04160800	04-22-2003	0.1	5.1	46.8	142	50	459	0.61
04160800	05-20-2003	<.2	4.0	33.3	278	100	454	0.66
04160800	06-11-2003	<.2	4.8	29.5	220	53.5	482	0.83
04160800	06-12-2003	<.2	5.9	27.4	247	54.4	424	0.74
04160800	07-23-2003	0.2	9.5	29.1	110	83.8	443	0.58
04160800	08-05-2003	<.2	9.4	30.5	69	53.1	482	0.6
04160800	09-09-2003	<.2	7.4	33.2	68	50.8	415	0.47

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Total ammonia + organic N, mg/L as N	Dissolved ammonia, mg/L as N	Dissolved nitrite + nitrate, mg/L as N	Dissolved nitrite, mg/L as N	Orthophosphate, mg/L as P	Dissolved phosphorus, mg/L	Total phosphorus, mg/L
04143830	09-17-2001	0.55	<.04	0.46	<.006	0.02	0.035	0.031
04143830	09-19-2001	1	0.04	0.67	0.009	E.01	0.027	0.044
04143830	11-14-2001	0.41	<.04	0.24	<.008	<.02	0.007	E.003
04143830	01-24-2002	0.37	<.04	0.42	<.008	E.01	0.024	0.01
04143830	03-11-2002	0.6	<.04	0.2	<.008	<.02	0.005	<.004
04143830	04-29-2002	0.52	<.04	0.12	E.005	E.01	0.009	E.04
04143830	06-06-2002	0.57	0.06	0.21	E.004	<.02	0.013	<.004
04143830	07-10-2002	0.78	E.03	0.53	0.009	0.02	0.026	E.05
04143830	08-21-2002	0.64	0.08	0.71	0.015	E.01	0.021	0.031
04143830	11-11-2002	0.37	<.04	0.18	E.004	<.02	0.01	0.022
04143830	12-11-2002	0.59	0.12	0.96	0.01	<.02	0.012	0.026
04143830	01-28-2003	0.41	0.04	0.57	E.004	<.02	0.008	0.02
04143830	04-22-2003	0.58	E.03	0.18	<.008	<.02	0.01	0.022
04143830	05-20-2003	0.6	E.03	0.33	E.007	<.02	0.013	0.027
04143830	06-12-2003	0.7	0.04	0.46	0.009	<.02	0.017	0.049
04143830	07-23-2003	0.64	0.09	0.88	0.012	E.02	0.033	0.046
04143830	08-05-2003	0.82	<.04	1.99	0.029	E.01	0.028	0.036
04143830	09-09-2003	0.68	E.03	1.03	0.009	E.02	0.028	0.041
04148035	07-10-2002	0.46	<.04	0.9	0.009	E.02	0.023	E.06
04148035	08-21-2002	0.34	E.02	0.58	E.005	0.02	0.025	0.046
04148035	12-11-2002	0.36	0.05	0.64	0.008	<.02	0.007	0.021
04148035	04-22-2003	0.6	0.05	0.21	E.005	<.02	0.012	0.03
04148035	06-12-2003	1.4	E.04	0.23	E.007	E.01	0.025	0.125
04148035	07-23-2003	0.42	0.04	0.57	E.005	E.01	0.019	0.039
04148035	08-05-2003	0.33	<.04	0.42	E.004	E.01	0.018	0.03
04148035	09-09-2003	0.29	E.03	0.42	<.008	E.01	0.015	0.025
04160800	09-17-2001	0.56	E.03	0.11	<.006	<.02	0.008	0.01
04160800	04-29-2002	0.5	<.04	E.04	E.005	<.02	0.006	<.06
04160800	06-04-2002	1.1	0.07	0.17	0.008	<.02	0.013	E.003
04160800	07-08-2002	0.58	E.03	0.23	0.01	<.02	0.011	E.03
04160800	08-20-2002	0.71	E.04	0.23	E.004	E.01	0.02	0.054
04160800	12-12-2002	0.54	0.18	0.11	E.004	<.02	0.004	0.013
04160800	02-02-2003	0.58	0.25	0.15	E.005	<.02	E.003	0.013
04160800	04-22-2003	0.72	<.04	0.08	<.008	<.02	0.011	0.018
04160800	05-20-2003	0.7	0.04	0.08	E.006	E.01	0.01	0.021
04160800	06-11-2003	0.71	E.04	0.11	0.024	<.02	0.026	0.012
04160800	06-12-2003	0.88	E.03	0.08	E.005	<.02	0.014	0.039
04160800	07-23-2003	0.69	0.04	0.15	E.005	<.02	0.017	0.036
04160800	08-05-2003	0.7	<.04	0.14	E.004	<.02	0.017	0.036
04160800	09-09-2003	0.52	<.04	<.06	<.008	<.02	0.009	0.021

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Enterococci, mEI colonies/100mL	E. coli, m-TEC, colonies/100mL	E. coli, NA-MUG, colonies/100mL	Fecal coliforms, colonies/100mL
04143830	09-17-2001	--	--	--	--
04143830	09-19-2001	--	--	--	--
04143830	11-14-2001	--	--	--	--
04143830	01-24-2002	--	--	--	--
04143830	03-11-2002	--	18	--	--
04143830	04-29-2002	--	10	--	--
04143830	06-06-2002	--	--	--	--
04143830	07-10-2002	--	--	--	--
04143830	08-21-2002	--	120	--	--
04143830	11-11-2002	--	59	--	--
04143830	12-11-2002	--	--	--	--
04143830	01-28-2003	--	--	--	--
04143830	04-22-2003	--	30	--	--
04143830	05-20-2003	--	140	--	--
04143830	06-12-2003	--	130	--	--
04143830	07-23-2003	--	--	--	--
04143830	08-05-2003	E200	--	140	E980
04143830	09-09-2003	E390	--	E100	E290
04148035	07-10-2002	--	--	--	--
04148035	08-21-2002	--	340	--	--
04148035	12-11-2002	--	--	--	--
04148035	04-22-2003	--	200	--	--
04148035	06-12-2003	--	--	--	--
04148035	07-23-2003	--	--	--	--
04148035	08-05-2003	E400	--	E300	E2400
04148035	09-09-2003	E650	--	E500	E600
04160800	09-17-2001	--	--	--	--
04160800	04-29-2002	--	46	--	--
04160800	06-04-2002	--	9500	--	--
04160800	07-08-2002	--	--	--	--
04160800	08-20-2002	--	770	--	--
04160800	12-12-2002	--	--	--	--
04160800	02-02-2003	--	8	--	--
04160800	04-22-2003	--	200	--	--
04160800	05-20-2003	--	700	--	--
04160800	06-11-2003	--	70	--	--
04160800	06-12-2003	--	80	--	--
04160800	07-23-2003	--	--	--	--
04160800	08-05-2003	96	--	120	E430
04160800	09-09-2003	E300	--	E220	E1040

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Sample time	Discharge, cfs	Redox potential millivolts	Dissolved oxygen, mg/L	pH, standard units	Specific conductance, $\mu\text{S}/\text{cm}$ @ 25°C	Water temperature, degrees C
04160900	09-17-2001	1030	1.4	--	5.5	7.0	879	13.5
04160900	11-14-2001	1300	66	--	10.5	7.7	720	8.9
04160900	01-22-2002	915	57	--	12.2	7.0	739	0.7
04160900	03-11-2002	915	106	--	13	7.6	747	1.8
04160900	04-29-2002	800	84	--	10.9	7.5	703	8.2
04160900	06-04-2002	815	41	--	6.7	7.7	624	15.1
04160900	07-09-2002	1235	12	--	--	7.9	773	--
04160900	08-20-2002	1130	--	--	--	7.9	870	--
04160900	12-12-2002	1115	24	--	12	7.8	721	1.4
04160900	02-03-2003	1000	6.4	--	12.1	7.6	924	1.4
04160900	05-01-2003	1030	73	--	8.9	7.7	688	13.6
04160900	06-11-2003	1045	68	--	8.8	8.0	735	18.3
04160900	07-22-2003	1430	--	--	--	7.9	815	--
04160900	08-05-2003	2000	3	549	6.7	7.6	844	22.5
04161000	01-22-2002	1355	103	--	--	7.8	922	3.7
04161000	03-11-2002	1345	159	--	15.3	7.3	1070	3.9
04161000	04-29-2002	1145	140	--	--	8.2	850	--
04161000	06-04-2002	1200	116	--	7.1	7.7	626	15.5
04161000	07-09-2002	1332	23	--	7.5	7.2	1140	21.2
04161000	08-28-2002	1345	22	193	8.5	7.4	1010	22.0
04161000	12-12-2002	1300	90	--	13.4	8.3	785	2.7
04161000	02-03-2003	1400	35	--	13.5	7.5	1420	4.9
04161000	04-30-2003	1730	73	--	11.2	7.8	1040	14.5
04161000	06-11-2003	1515	115	--	9.3	7.9	834	19.5
04161000	07-23-2003	1600	21	360	9.8	7.8	1060	21.4
04161000	08-05-2003	1415	21	523	9	7.7	1090	22.3
04161000	09-08-2003	1500	23	338	9.7	7.9	952	21.9
04161540	09-19-2001	1130	137	--	8.7	7.8	559	17.1
04161540	11-15-2001	1130	93	--	11.5	7.8	670	9.9
04161540	01-24-2002	1100	66	--	12.1	7.6	907	3.2
04161540	03-12-2002	1110	114	--	14.4	8.2	738	2.7
04161540	05-01-2002	940	49	--	11.3	8.3	747	10.0
04161540	06-06-2002	1230	98	--	9	8.1	624	15.5
04161540	07-09-2002	1150	15	--	8.4	7.9	778	19.5
04161540	08-28-2002	1230	13	169	9.3	7.8	749	17.7
04161540	11-11-2002	1215	30	166	9.8	7.8	733	10.5
04161540	12-11-2002	1115	9	--	--	8.0	877	0.3
04161540	01-28-2003	1635	99	--	12.9	7.8	846	-0.2
04161540	02-02-2003	1545	53	--	15.1	7.9	893	-0.2
04161540	04-22-2003	1230	47	324	10.5	8.0	748	8.8

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Calcium, wf, mg/L	Magnesium, wf mg/L	Potassium, wf mg/L	Sodium, wf mg/L	Alkalinity, wf,i mg/L as CaCO ₃	Bicarbonate, wf, mg/L	Chloride, wf mg/L
04160900	09-17-2001	81.9	22.4	2.2	63.2	134	163	123
04160900	11-14-2001	58.1	21.1	2.3	53.7	229	279	113
04160900	01-22-2002	60.0	20.6	2.6	51.2	282	344	107
04160900	03-11-2002	64.2	20.2	2.0	49.8	212	259	100
04160900	04-29-2002	66.3	20.4	2.3	51.8	184	224	100
04160900	06-04-2002	57.7	17.2	1.9	44.5	154	188	87
04160900	07-09-2002	63.3	22.3	1.7	61.3	186	227	117
04160900	08-20-2002	81.4	23.6	2.2	66.9	271	--	133
04160900	12-12-2002	57.4	21.9	2.1	54.5	176	215	113
04160900	02-03-2003	67.7	23.5	2.3	83	230	--	159
04160900	05-01-2003	65.5	22.5	2.5	57.9	170	--	108
04160900	06-11-2003	61.5	21.3	2.2	56.8	174	212	110
04160900	07-22-2003	70.8	22.6	2.2	66.7	--	--	132
04160900	08-05-2003	78.8	24.2	2.3	73.6	208	254	134
04161000	01-22-2002	61.6	19.8	3.7	92	168	205	166
04161000	03-11-2002	65.1	19.1	3.1	111	--	--	197
04161000	04-29-2002	65.4	18.9	3.5	82.1	180	220	147
04161000	06-04-2002	44.2	10.7	3.9	61.1	134	163	108
04161000	07-09-2002	75.9	19.8	7.9	127	150	183	213
04161000	08-28-2002	72.4	17.5	9.4	104	141	172	175
04161000	12-12-2002	55.0	20.6	3.6	70.7	152	185	135
04161000	02-03-2003	66.6	18.0	6.9	181	170	207	301
04161000	04-30-2003	65.8	19.9	5.0	127	143	174	222
04161000	06-11-2003	58.0	18.6	3.8	81.4	158	193	148
04161000	07-23-2003	69.9	16.6	9.5	120	134	163	194
04161000	08-05-2003	73.8	17.6	9.1	119	144	176	194
04161000	09-08-2003	65.0	13.9	11.2	103	--	--	176
04161540	09-19-2001	52.4	14.5	3.7	35	170	207	71
04161540	11-15-2001	70.9	22.0	2.3	35.1	194	237	75
04161540	01-24-2002	81.2	23.6	2.3	68.9	216	264	129
04161540	03-12-2002	73.2	21.2	2.2	43.6	--	--	84
04161540	05-01-2002	79.1	23.4	1.9	41.2	230	281	83
04161540	06-06-2002	67.3	20.6	2.0	33.6	190	232	67
04161540	07-09-2002	83.2	25.9	2.0	42.9	244	297	86
04161540	08-28-2002	82.8	25.7	2.0	43.5	141	172	91
04161540	11-11-2002	77.7	22.9	3.6	41.1	272	--	93
04161540	12-11-2002	94.5	27.8	2.0	51	250	305	106
04161540	01-28-2003	84.3	28.0	2.1	60.2	254	305	112
04161540	02-02-2003	78.6	24.7	2.1	72	252	302	142
04161540	04-22-2003	76.6	23.3	2.5	47.7	206	251	97

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Fluoride, wf mg/L	Silica, wf mg/L	Sulfate, wf mg/L	Dissolved iron, µg/L	Dissolved manganese, µg/L	Residue of evaporation @ 180°C, mg/L	Dissolved ammonia + organic N, mg/L as N
04160900	09-17-2001	E.1	8.3	24.0	17	79.1	488	0.41
04160900	11-14-2001	0.1	6.5	27.3	35	16.5	404	0.38
04160900	01-22-2002	0.1	5.3	26.4	41	12.4	434	0.4
04160900	03-11-2002	0.2	4.9	25.5	34	14	402	0.37
04160900	04-29-2002	0.1	3.4	24.5	63	18.4	411	0.39
04160900	06-04-2002	0.1	3.0	23.0	76	28.3	396	0.54
04160900	07-09-2002	<.10	5.9	23.6	70	49.3	454	0.49
04160900	08-20-2002	0.2	8.8	21.7	46	60.3	535	0.51
04160900	12-12-2002	<.17	5.6	24.6	31	17.3	413	0.39
04160900	02-03-2003	0.2	6.3	27.4	60	46.4	523	--
04160900	05-01-2003	<.17	3.5	29.3	51	21.1	409	0.45
04160900	06-11-2003	<.2	1.0	28.0	32	9.6	430	0.45
04160900	07-22-2003	<.2	7.2	25.2	28	82.9	501	0.49
04160900	08-05-2003	<.2	8.0	23.0	20	61	530	0.46
04161000	01-22-2002	0.2	4.5	33.1	44	21	524	0.52
04161000	03-11-2002	0.3	4.6	34.0	31	23.4	580	0.45
04161000	04-29-2002	0.3	3.1	32.6	41	19	506	0.49
04161000	06-04-2002	0.2	2.9	27.0	35	34	381	0.85
04161000	07-09-2002	0.8	5.5	55.1	57	30.9	675	0.71
04161000	08-28-2002	0.9	6.8	54.0	44	23.1	609	0.73
04161000	12-12-2002	0.3	2.8	31.0	36	13.5	433	0.59
04161000	02-03-2003	0.7	5.1	46.6	61	64.7	784	2.4
04161000	04-30-2003	0.3	2.1	40.6	58	35.5	610	1
04161000	06-11-2003	0.3	2.2	33.3	42	15.5	475	0.58
04161000	07-23-2003	1.1	6.4	53.9	43	25.4	611	0.86
04161000	08-05-2003	0.8	6.9	52.4	54	29.1	675	0.86
04161000	09-08-2003	1.0	6.4	48.1	57	17.3	578	0.87
04161540	09-19-2001	0.2	5.1	27.1	22	21.7	314	0.64
04161540	11-15-2001	0.2	7.1	35.2	43	25.1	388	0.32
04161540	01-24-2002	0.2	7.0	36.1	44	39.1	526	0.33
04161540	03-12-2002	0.2	5.6	33.8	41	24.8	416	0.35
04161540	05-01-2002	0.2	3.3	32.1	90	28.1	433	0.33
04161540	06-06-2002	0.2	4.6	26.5	48	20.2	412	0.52
04161540	07-09-2002	0.2	8.4	31.9	46	21.2	476	0.23
04161540	08-28-2002	0.3	9.4	29.3	16	17.8	486	0.27
04161540	11-11-2002	0.2	9.1	34.5	98	27.9	434	0.3
04161540	12-11-2002	0.3	10.7	37.2	52	28.5	532	0.2
04161540	01-28-2003	0.2	9.2	35.6	63	26.9	498	0.3
04161540	02-02-2003	0.2	8.2	34.8	61	31.5	529	0.28
04161540	04-22-2003	0.2	6.0	42.2	75	35.9	462	0.4

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Total ammonia + organic N, mg/L as N	Dissolved ammonia, mg/L as N	Dissolved nitrite + nitrate, mg/L as N	Dissolved nitrite, mg/L as N	Orthophosphate, mg/L as P	Dissolved phosphorus, mg/L	Total phosphorus, mg/L
04160900	09-17-2001	0.42	0.15	0.13	E.005	E.01	0.021	0.019
04160900	11-14-2001	0.47	E.03	0.06	E.004	<.02	E.004	0.004
04160900	01-22-2002	0.43	0.05	0.14	E.006	<.02	E.004	E.003
04160900	03-11-2002	0.54	0.04	0.15	E.004	<.02	E.003	<.004
04160900	04-29-2002	1	E.04	0.14	E.007	<.02	0.005	E.05
04160900	06-04-2002	0.66	0.11	0.23	E.007	<.02	0.008	<.004
04160900	07-09-2002	0.45	0.08	0.07	E.007	<.02	0.009	<.004
04160900	08-20-2002	0.43	0.18	0.13	E.007	<.02	E.004	0.013
04160900	12-12-2002	0.48	0.08	0.07	E.005	<.02	0.005	0.011
04160900	02-03-2003	--	--	--	--	--	E.003	0.008
04160900	05-01-2003	0.51	0.07	0.12	E.005	<.02	0.005	0.018
04160900	06-11-2003	0.56	E.03	0.08	<.008	<.02	E.004	0.017
04160900	07-22-2003	0.57	0.14	0.06	E.004	<.02	0.005	0.017
04160900	08-05-2003	0.58	0.13	0.09	E.006	<.02	E.004	0.023
04161000	01-22-2002	0.52	0.05	1.9	0.008	0.03	0.035	0.007
04161000	03-11-2002	0.39	0.04	2.2	E.007	0.02	0.027	<.004
04161000	04-29-2002	0.58	E.02	1.9	0.016	0.02	0.04	0.06
04161000	06-04-2002	1.1	0.28	3.05	0.036	0.06	0.082	0.02
04161000	07-09-2002	0.75	0.07	10.3	0.052	0.16	0.2	0.21
04161000	08-28-2002	0.68	0.07	11.1	0.05	0.38	0.43	0.46
04161000	12-12-2002	0.71	0.12	1.52	E.005	0.07	0.091	0.111
04161000	02-03-2003	2.6	1.82	6.43	0.043	0.22	0.25	0.26
04161000	04-30-2003	1.5	0.29	3.98	0.055	0.02	0.044	0.107
04161000	06-11-2003	0.67	<.04	2.25	0.024	0.04	0.062	0.095
04161000	07-23-2003	0.94	0.06	11.7	0.03	0.43	0.46	0.49
04161000	08-05-2003	0.88	0.06	10.8	0.035	0.55	0.57	0.6
04161000	09-08-2003	0.85	<.41	11.4	0.029	0.44	0.53	0.54
04161540	09-19-2001	1.1	0.09	0.45	0.015	<.02	0.023	0.064
04161540	11-15-2001	0.4	<.04	0.24	E.004	<.02	0.004	0.004
04161540	01-24-2002	0.38	<.04	0.43	E.004	<.02	E.004	E.003
04161540	03-12-2002	0.39	<.04	0.32	E.005	<.02	E.004	<.004
04161540	05-01-2002	0.36	<.04	0.15	E.004	<.02	0.004	<.004
04161540	06-06-2002	0.69	0.05	0.21	0.009	<.02	0.011	0.004
04161540	07-09-2002	0.27	<.04	0.32	E.006	<.02	0.008	<.06
04161540	08-28-2002	0.27	<.04	0.28	<.008	<.02	0.007	0.018
04161540	11-11-2002	0.42	<.04	0.11	E.005	<.02	0.006	0.026
04161540	12-11-2002	0.24	E.04	0.31	<.008	<.02	E.003	0.01
04161540	01-28-2003	0.32	0.05	0.23	E.006	<.02	0.006	0.01
04161540	02-02-2003	0.29	0.06	0.21	E.006	<.02	0.005	0.01
04161540	04-22-2003	0.44	E.03	0.25	E.005	<.02	0.008	0.014

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Enterococci, mEI colonies/100mL	E. coli, m-TEC, colonies/100mL	E. coli, NA-MUG, colonies/100mL	Fecal coliforms, colonies/100mL
04160900	09-17-2001	--	--	--	--
04160900	11-14-2001	--	--	--	--
04160900	01-22-2002	--	--	--	--
04160900	03-11-2002	--	13	--	--
04160900	04-29-2002	--	120	--	--
04160900	06-04-2002	--	9700	--	--
04160900	07-09-2002	--	150	--	--
04160900	08-20-2002	--	--	--	--
04160900	12-12-2002	--	--	--	--
04160900	02-03-2003	--	--	--	--
04160900	05-01-2003	--	--	--	--
04160900	06-11-2003	--	190	--	--
04160900	07-22-2003	--	--	--	--
04160900	08-05-2003	E906	--	E1700	E3700
04161000	01-22-2002	--	--	--	--
04161000	03-11-2002	--	43	--	--
04161000	04-29-2002	--	97	--	--
04161000	06-04-2002	--	3100	--	--
04161000	07-09-2002	--	150	--	--
04161000	08-28-2002	--	800	--	--
04161000	12-12-2002	--	--	--	--
04161000	02-03-2003	--	4200	--	--
04161000	04-30-2003	--	140	--	--
04161000	06-11-2003	--	200	--	--
04161000	07-23-2003	--	--	--	--
04161000	08-05-2003	E100	--	E110	E1620
04161000	09-08-2003	E400	--	E320	E1030
04161540	09-19-2001	--	--	--	--
04161540	11-15-2001	--	--	--	--
04161540	01-24-2002	--	--	--	--
04161540	03-12-2002	--	8	--	--
04161540	05-01-2002	--	57	--	--
04161540	06-06-2002	--	590	--	--
04161540	07-09-2002	--	2100	--	--
04161540	08-28-2002	--	580	--	--
04161540	11-11-2002	--	800	--	--
04161540	12-11-2002	--	--	--	--
04161540	01-28-2003	--	--	--	--
04161540	02-02-2003	--	35	--	--
04161540	04-22-2003	--	20	--	--

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Sample time	Discharge, cfs	Redox potential, millivolts	Dissolved oxygen, mg/L	pH, standard units	Specific conductance, $\mu\text{S}/\text{cm}$ @ 25°C	Water temperature, degrees C
04161540	07-23-2003	1145	14	353	8.8	8.0	763	17.3
04161540	08-05-2003	1545	24	537	8.2	8.0	678	20.0
04161540	09-09-2003	1245	8	338	10.4	8.2	801	16.4
04161580	12-11-2002	1300	8.1	--	--	7.4	637	1.0
04161580	06-11-2003	1415	15	--	9.6	8.1	575	18.7
04161580	08-05-2003	1630	3.2	415	8.5	8.3	634	23.5
04161580	09-09-2003	1545	1.7	180	9.6	8.3	611	19.8
04161810	09-19-2001	930	228	--	8.8	7.7	801	17.2
04161810	11-15-2001	945	144	--	10.7	7.5	723	10.7
04161810	01-24-2002	1250	--	--	13.7	7.9	1190	3.2
04161810	03-12-2002	1245	292	--	13.8	7.8	1070	4.4
04161810	05-01-2002	1100	235	--	11.4	8.4	864	11.0
04161810	06-06-2002	1030	346	--	9.7	8.1	734	16.2
04161810	07-09-2002	1033	52	--	7.9	8.0	957	22.2
04161810	08-21-2002	1100	50	165	8.5	8.1	848	19.4
04161810	11-11-2002	1100	139	169	10.2	7.8	635	10.8
04161810	12-11-2002	1000	125	166	14.2	7.0	871	0.5
04161810	01-28-2003	1600	49	--	13.7	8.0	1100	-0.2
04161810	02-02-2003	1500	--	--	16.2	8.5	2580	-0.3
04161810	05-01-2003	1200	456	--	9.4	7.6	835	13.5
04161810	06-11-2003	1215	235	--	9.5	7.9	871	18.2
04161810	07-23-2003	1300	59	--	9.9	8.0	944	20.1
04161810	08-05-2003	1500	63	467	9.1	8.2	853	22.0
04161810	09-09-2003	1415	34	331	10.3	8.5	937	19.3
04166000	09-18-2001	1345	8	--	8.3	7.9	952	18.9
04166000	11-15-2001	1400	55	--	11	7.7	1120	9.7
04166000	01-24-2002	910	28	--	12.8	7.8	1550	2.5
04166000	03-12-2002	915	43	--	13.8	8.6	1680	2.0
04166000	05-01-2002	745	23	--	10.3	8.3	1210	10.3
04166000	06-06-2002	815	20	--	8.1	7.8	1040	16.4
04166000	07-09-2002	843	4.8	--	5.8	7.7	1150	25.0
04166000	08-28-2002	1000	5.4	178	6.2	7.6	1080	21.8
04166000	09-03-2002	1030	4.2	176	5	7.5	1090	23.3
04166000	12-12-2002	1400	7.2	--	13.1	8.2	1540	0.8
04166000	02-02-2003	1330	8	--	14.8	7.8	2120	0.3
04166000	04-30-2003	1630	14	--	10.4	8.0	1540	14.7
04166000	05-20-2003	1230	22	--	8.1	8.0	1320	17.8
04166000	07-23-2003	1500	6.1	375	7.6	8.1	1160	21.9
04166000	08-05-2003	1315	8.9	516	7.3	8.1	1160	22.5
04166000	09-08-2003	1400	3.6	320	8.5	8.3	1110	20.9

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Calcium, wf, mg/L	Magnesium, wf mg/L	Potassium, wf mg/L	Sodium, wf mg/L	Alkalinity, wf,i mg/L as CaCO ₃	Bicarbonate, wf, mg/L	Chloride, wf mg/L
04161540	07-23-2003	73.7	20.4	2.9	55.7	174	212	107
04161540	08-05-2003	65.6	18.8	3.6	48.5	190	232	93
04161540	09-09-2003	80.7	26.0	2.3	46.2	252	307	103
04161580	12-11-2002	67.5	27.7	1.6	23.4	212	--	53
04161580	06-11-2003	64.0	23.4	1.5	23.4	204	--	52
04161580	08-05-2003	69.3	27.1	1.8	29.7	232	--	59
04161580	09-09-2003	62.3	27.7	1.9	25.9	216	--	58
04161810	09-19-2001	63.3	18.6	4.6	64.2	152	185	119
04161810	11-15-2001	61.5	17.9	3.4	57.2	150	183	106
04161810	01-24-2002	78.3	22.6	3.4	133	--	--	232
04161810	03-12-2002	74.5	20.7	2.7	104	--	--	190
04161810	05-01-2002	73.4	22.1	2.8	72.9	216	264	133
04161810	06-06-2002	66.8	20.7	2.7	55.2	192	234	106
04161810	07-09-2002	79.4	24.1	4.2	83.3	204	249	151
04161810	08-21-2002	72.7	22.3	4.7	70.9	192	234	132
04161810	11-11-2002	54.1	17.2	3.7	50.7	151	184	99
04161810	12-11-2002	63.0	22.6	3.4	76.8	166	202	145
04161810	01-28-2003	79.9	25.0	4.4	117	214	261	198
04161810	02-02-2003	79.3	23.9	5.4	409	220	268	675
04161810	05-01-2003	49.5	11.9	3.2	111	106	129	182
04161810	06-11-2003	67.7	20.6	3.1	80.5	168	205	146
04161810	07-23-2003	73.9	21.0	4.6	98.9	174	212	183
04161810	08-05-2003	69.9	20.4	4.6	74.9	168	205	138
04161810	09-09-2003	74.0	22.5	6.2	85.1	188	230	162
04166000	09-18-2001	77.7	22.1	4.1	81.6	242	295	151
04166000	11-15-2001	103.0	26.0	3.8	91.9	232	283	179
04166000	01-24-2002	111.0	28.2	3.4	157	256	312	291
04166000	03-12-2002	96.2	22.2	3.2	202	--	--	354
04166000	05-01-2002	93.5	25.2	3.2	119	274	334	219
04166000	06-06-2002	86.5	24.1	3.5	95.6	208	254	182
04166000	07-09-2002	81.0	27.5	4.4	116	205	250	217
04166000	08-28-2002	84.3	25.3	3.9	94.2	210	256	189
04166000	09-03-2002	90.2	28.0	3.9	97	216	--	185
04166000	12-12-2002	124.0	33.4	4.0	137	289	353	280
04166000	02-02-2003	136.0	34.7	3.9	256	351	428	454
04166000	04-30-2003	99.2	27.8	4.4	174	214	261	327
04166000	05-20-2003	101.0	26.2	4.3	126	222	271	253
04166000	07-23-2003	92.1	26.2	4.2	120	224	273	225
04166000	08-05-2003	99.0	31.1	4.5	106	232	283	202
04166000	09-08-2003	88.6	28.5	4.6	102	198	242	202

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Fluoride, wf mg/L	Silica, wf mg/L	Sulfate, wf mg/L	Dissolved iron, µg/L	Dissolved manganese, µg/L	Residue of evaporation @ 180°C, mg/L	Dissolved ammonia + organic N, mg/L as N
04161540	07-23-2003	0.3	9.9	32.2	31	28.8	456	0.36
04161540	08-05-2003	0.2	9.1	27.7	24	23.8	443	0.38
04161540	09-09-2003	0.3	10.5	33.0	42	25.4	473	0.2
04161580	12-11-2002	0.2	9.5	34.1	28	15.1	389	0.32
04161580	06-11-2003	0.2	5.4	26.3	97	21.1	360	0.59
04161580	08-05-2003	0.2	10.0	27.0	40	18.7	420	0.31
04161580	09-09-2003	0.2	11.2	29.8	64	26.8	367	0.28
04161810	09-19-2001	0.4	5.3	35.6	21	16.8	449	0.56
04161810	11-15-2001	0.2	4.9	36.8	42	30.5	418	0.51
04161810	01-24-2002	0.2	5.2	40.5	38	30.8	680	0.39
04161810	03-12-2002	0.2	4.7	38.9	31	37.7	572	0.39
04161810	05-01-2002	0.2	1.3	35.8	58	21.3	503	0.42
04161810	06-06-2002	0.2	3.3	31.0	42	16.4	488	0.52
04161810	07-09-2002	0.4	5.1	45.1	42	22.7	594	0.38
04161810	08-21-2002	0.5	7.2	40.2	32	12.3	557	0.41
04161810	11-11-2002	0.2	4.8	33.4	86	36.2	368	0.36
04161810	12-11-2002	0.3	3.7	35.4	41	17.6	511	0.46
04161810	01-28-2003	0.5	6.0	46.0	73	33	646	0.69
04161810	02-02-2003	0.4	5.2	48.3	66	60.1	1400	0.78
04161810	05-01-2003	<.17	2.5	34.2	33	59.7	473	0.57
04161810	06-11-2003	0.2	3.7	39.0	36	18.9	501	0.53
04161810	07-23-2003	0.5	6.2	45.5	38	18.1	595	0.54
04161810	08-05-2003	0.4	7.0	36.7	29	25.9	554	0.51
04161810	09-09-2003	0.6	6.0	47.3	41	11.6	564	0.55
04166000	09-18-2001	0.2	8.6	54.1	39	44.9	552	0.52
04166000	11-15-2001	0.2	7.6	63.0	22	31.2	644	0.42
04166000	01-24-2002	0.2	6.1	63.9	63	51.7	872	0.34
04166000	03-12-2002	0.2	5.7	54.5	40	71.9	912	0.39
04166000	05-01-2002	0.2	3.5	54.4	76	31.9	692	--
04166000	06-06-2002	0.2	7.3	48.3	62	23.3	662	0.51
04166000	07-09-2002	0.2	12.3	47.9	47	54.3	652	0.48
04166000	08-28-2002	0.3	10.5	51.2	19	41	622	0.46
04166000	09-03-2002	0.3	10.2	56.4	32	42.2	715	0.53
04166000	12-12-2002	0.3	9.2	79.0	37	33	906	0.39
04166000	02-02-2003	0.3	9.1	78.0	42	51.2	1190	0.32
04166000	04-30-2003	0.2	0.9	74.5	51	34.3	886	0.43
04166000	05-20-2003	0.2	4.1	66.7	36	35.9	801	0.61
04166000	07-23-2003	0.3	9.0	51.9	69	54.3	695	0.46
04166000	08-05-2003	0.3	10.2	56.0	29	27.1	705	0.5
04166000	09-08-2003	0.3	11.6	53.3	28	29.5	653	0.56

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Total ammonia + organic N, mg/L as N	Dissolved ammonia, mg/L as N	Dissolved nitrite + nitrate, mg/L as N	Dissolved nitrite, mg/L as N	Orthophosphate, mg/L as P	Dissolved phosphorus, mg/L	Total phosphorus, mg/L
04161540	07-23-2003	0.46	E.03	0.37	E.006	<.02	0.01	0.036
04161540	08-05-2003	0.55	<.04	0.3	E.006	<.02	0.011	0.063
04161540	09-09-2003	0.25	<.04	0.17	<.008	<.02	0.007	0.02
04161580	12-11-2002	0.41	E.04	0.21	<.008	<.02	0.005	0.014
04161580	06-11-2003	0.73	<.04	0.16	<.008	<.02	0.014	0.034
04161580	08-05-2003	0.31	<.04	0.09	<.008	<.02	0.013	0.022
04161580	09-09-2003	0.49	<.04	0.11	<.008	<.02	0.016	0.04
04161810	09-19-2001	0.8	0.07	2.96	0.016	0.09	0.119	0.106
04161810	11-15-2001	0.66	<.04	1.09	0.022	<.02	0.028	0.004
04161810	01-24-2002	0.51	E.02	1.4	0.011	<.02	0.009	<.004
04161810	03-12-2002	0.41	<.04	1.09	0.01	<.02	0.008	E.002
04161810	05-01-2002	0.45	<.04	0.89	0.008	<.02	0.009	<.004
04161810	06-06-2002	0.71	0.07	0.77	0.018	E.01	0.026	0.006
04161810	07-09-2002	0.43	<.04	3.39	0.023	0.03	0.049	0.07
04161810	08-21-2002	0.51	<.04	3.33	0.011	0.09	0.109	0.131
04161810	11-11-2002	0.61	<.04	0.56	E.007	0.02	0.035	0.107
04161810	12-11-2002	0.61	0.06	1.53	0.009	0.06	0.057	0.085
04161810	01-28-2003	0.79	0.23	3.52	0.031	0.04	0.057	0.091
04161810	02-02-2003	0.79	0.27	3.19	0.049	0.07	0.08	0.108
04161810	05-01-2003	2.2	0.19	1.14	0.04	<.02	0.015	0.45
04161810	06-11-2003	0.78	0.04	1.11	0.02	0.02	0.035	0.113
04161810	07-23-2003	0.61	E.02	2.44	0.014	0.05	0.075	0.102
04161810	08-05-2003	0.7	<.04	2.07	0.018	0.06	0.086	0.145
04161810	09-09-2003	0.53	<.04	5.23	0.011	0.15	0.174	0.183
04166000	09-18-2001	0.67	0.04	0.47	0.023	<.02	0.016	0.015
04166000	11-15-2001	0.65	<.04	0.48	0.013	<.02	0.006	0.005
04166000	01-24-2002	0.4	<.04	0.58	E.007	<.02	0.007	E.003
04166000	03-12-2002	0.45	E.03	0.81	0.009	<.02	0.006	E.003
04166000	05-01-2002	--	--	--	--	--	--	--
04166000	06-06-2002	0.64	0.08	0.47	0.028	<.02	0.018	E.003
04166000	07-09-2002	0.81	<.04	0.17	E.004	E.01	0.029	0.09
04166000	08-28-2002	0.72	0.05	0.17	<.008	<.02	0.026	0.072
04166000	09-03-2002	0.68	0.08	0.18	E.005	E.02	0.035	0.07
04166000	12-12-2002	0.42	0.1	0.39	0.009	<.02	0.008	0.021
04166000	02-02-2003	0.45	0.09	0.43	0.011	<.02	E.004	0.03
04166000	04-30-2003	0.61	<.04	0.16	E.005	<.02	0.011	0.033
04166000	05-20-2003	0.8	0.06	0.47	0.027	<.02	0.017	0.057
04166000	07-23-2003	0.75	<.04	0.25	<.008	E.01	0.037	0.094
04166000	08-05-2003	0.68	<.04	0.32	E.007	0.02	0.037	0.08
04166000	09-08-2003	0.7	0.04	0.22	E.004	<.18	0.041	0.072

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Enterococci, mEI colonies/100mL	E. coli, m-TEC, colonies/100mL	E. coli, NA-MUG, colonies/100mL	Fecal coliforms, colonies/100mL
04161540	07-23-2003	--	--	--	--
04161540	08-05-2003	>1000	--	E1500	E3500
04161540	09-09-2003	E350	--	E470	E480
04161580	12-11-2002	--	--	--	--
04161580	06-11-2003	--	110	--	--
04161580	08-05-2003	E100	--	E270	E990
04161580	09-09-2003	95	--	E260	E360
04161810	09-19-2001	--	--	--	--
04161810	11-15-2001	--	--	--	--
04161810	01-24-2002	--	--	--	--
04161810	03-12-2002	--	120	--	--
04161810	05-01-2002	--	--	--	--
04161810	06-06-2002	--	490	--	--
04161810	07-09-2002	--	130	--	--
04161810	08-21-2002	--	240	--	--
04161810	11-11-2002	--	3200	--	--
04161810	12-11-2002	--	--	--	--
04161810	01-28-2003	--	--	--	--
04161810	02-02-2003	--	340	--	--
04161810	05-01-2003	--	--	--	--
04161810	06-11-2003	--	40	--	--
04161810	07-23-2003	--	--	--	--
04161810	08-05-2003	E1030	--	E1800	E3400
04161810	09-09-2003	69	--	E310	E570
04166000	09-18-2001	--	--	--	--
04166000	11-15-2001	--	--	--	--
04166000	01-24-2002	--	--	--	--
04166000	03-12-2002	--	61	--	--
04166000	05-01-2002	--	120	--	--
04166000	06-06-2002	--	550	--	--
04166000	07-09-2002	--	600	--	--
04166000	08-28-2002	--	--	--	--
04166000	09-03-2002	--	--	--	--
04166000	12-12-2002	--	--	--	--
04166000	02-02-2003	--	830	--	--
04166000	04-30-2003	--	410	--	--
04166000	05-20-2003	--	800	--	--
04166000	07-23-2003	--	--	--	--
04166000	08-05-2003	E850	--	E1000	E2000
04166000	09-08-2003	E420	--	E910	E910

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Sample time	Discharge, cfs	Redox potential millivolts	Dissolved oxygen, mg/L	pH, standard units	Specific conductance, $\mu\text{S}/\text{cm}$ @ 25°C	Water temperature, degrees C
04166100	09-18-2001	1215	16	--	8.9	7.8	1100	15.7
04166100	11-15-2001	1545	200	--	10.1	7.7	1030	10.5
04166100	01-23-2002	1200	59	--	13.2	7.8	1820	1.8
04166100	03-13-2002	1510	131	--	12.6	8.8	1570	6.4
04166100	05-02-2002	1245	298	--	10.1	7.8	823	10.5
04166100	06-05-2002	1245	87	--	8.9	8.0	1080	16.8
04166100	07-10-2002	1510	15	--	7.2	7.9	1270	22.6
04166100	08-20-2002	1400	--	--	8.1	8.2	942	20.1
04166100	11-11-2002	1430	130	175	8.2	7.7	805	10.8
04166100	12-10-2002	1400	26	198	14.5	6.8	1720	-0.1
04166100	01-28-2003	1400	29	--	11.7	7.7	1990	-0.3
04166100	01-29-2003	1600	31	--	11.2	7.6	2770	-0.2
04166100	02-02-2003	1200	44	--	--	7.7	6880	-0.4
04166100	04-30-2003	1530	32	--	--	8.1	1560	13.4
04166100	07-22-2003	1045	--	--	--	7.8	1420	--
04166100	08-05-2003	1030	17	345	6.8	7.8	1140	20.4
04166100	09-08-2003	1045	10	364	8.2	8.0	1260	17.5
04166200	12-10-2002	1445	0.64	190	12.6	8.2	5200	0.0
04166200	08-05-2003	1230	3.2	485	4.7	7.7	664	20.6
04166200	09-08-2003	1300	1.4	359	6.6	7.9	2810	18.1
04166315	09-18-2001	1000	5.6	--	9.1	7.9	1240	15.0
04166315	11-19-2001	1045	14	--	10.3	7.9	1010	9.6
04166315	01-23-2002	1045	11	--	13.3	7.8	1780	1.3
04166315	03-13-2002	1330	26	--	12.5	8.4	1780	6.0
04166315	05-02-2002	1015	68	--	10.2	8.0	1080	9.6
04166315	06-05-2002	1045	18	--	--	8.1	1070	16.1
04166315	07-10-2002	1340	5.1	--	7.5	7.0	1260	21.4
04166315	08-21-2002	815	4.9	175	8.1	8.0	1140	17.7
04166315	11-11-2002	1530	21	169	9.4	7.8	786	10.9
04166315	12-10-2002	1230	--	173	14.2	7.0	1570	-0.2
04166315	01-28-2003	1300	3	--	11.8	7.5	1990	-0.3
04166315	02-02-2003	1045	3.3	--	12.1	7.5	4540	-0.3
04166315	04-30-2003	1400	11	--	10.3	7.9	2020	12.9
04166315	05-20-2003	1500	13	--	8.6	8.0	1580	16.8
04166315	07-22-2003	1230	7.3	--	--	8.1	1480	--
04166315	08-05-2003	1115	5.9	411	7.1	8.0	1260	20.1
04166315	09-08-2003	1145	3.7	--	9	8.2	1360	17.6
04170000	09-17-2001	1215	32	--	10.4	7.8	881	20.1
04170000	11-19-2001	1210	165	--	10.8	7.7	726	10.0
04170000	01-23-2002	1420	102	--	13.4	7.7	797	2.2

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Calcium, wf, mg/L	Magnesium, wf mg/L	Potassium, wf mg/L	Sodium, wf mg/L	Alkalinity, wf,i mg/L as CaCO ₃	Bicarbonate, wf, mg/L	Chloride, wf mg/L
04166100	09-18-2001	87.1	24.9	4.1	104	188	230	181
04166100	11-15-2001	84.6	21.9	3.8	94.5	--	--	173
04166100	01-23-2002	110.0	28.4	3.7	214	252	308	381
04166100	03-13-2002	101.0	24.0	3.6	176	254	310	319
04166100	05-02-2002	56.3	14.9	2.7	84.2	144	176	150
04166100	06-05-2002	83.6	22.7	3.6	106	228	278	200
04166100	07-10-2002	91.9	28.7	4.0	129	246	300	237
04166100	08-20-2002	74.3	22.3	3.9	93	188	229	167
04166100	11-11-2002	72.1	19.0	4.3	65.6	182	222	125
04166100	12-10-2002	117.0	32.6	3.9	178	273	332	334
04166100	01-28-2003	134.0	37.7	3.7	245	343	419	411
04166100	01-29-2003	135.0	38.4	3.8	436	374	456	681
04166100	02-02-2003	137.0	36.2	7.2	1320	305	372	2060
04166100	04-30-2003	103.0	29.6	4.9	189	216	263	335
04166100	07-22-2003	79.3	21.3	5.0	179	--	--	310
04166100	08-05-2003	78.9	21.8	4.5	125	278	339	217
04166100	09-08-2003	94.4	27.9	4.6	132	216	263	239
04166200	12-10-2002	138.0	41.5	7.5	875	287	--	1510
04166200	08-05-2003	41.8	7.4	3.8	76.9	144	--	134
04166200	09-08-2003	188.0	37.7	11.7	539	224	--	752
04166315	09-18-2001	95.3	25.5	7.5	119	205	250	212
04166315	11-19-2001	94.2	20.7	4.6	80.6	218	266	153
04166315	01-23-2002	113.0	27.3	5.4	200	251	306	359
04166315	03-13-2002	99.2	22.3	4.5	216	254	310	383
04166315	05-02-2002	65.1	15.8	3.7	122	156	190	230
04166315	06-05-2002	85.8	20.5	4.6	109	232	283	200
04166315	07-10-2002	89.3	25.6	7.3	133	230	281	243
04166315	08-21-2002	91.9	25.9	7.9	114	248	303	212
04166315	11-11-2002	68.6	15.5	6.9	69.4	165	201	124
04166315	12-10-2002	116.0	30.0	7.3	157	266	325	301
04166315	01-28-2003	117.0	30.6	8.8	271	262	320	442
04166315	02-02-2003	122.0	30.3	8.6	795	262	320	1290
04166315	04-30-2003	118.0	30.5	7.8	258	230	281	469
04166315	05-20-2003	95.3	21.9	7.5	178	208	254	343
04166315	07-22-2003	94.3	25.4	9.0	170	--	--	315
04166315	08-05-2003	81.6	19.9	7.8	145	260	--	255
04166315	09-08-2003	90.7	24.9	9.4	142	176	215	267
04170000	09-17-2001	63.0	22.3	4.0	81.6	218	266	141
04170000	11-19-2001	66.5	19.2	2.8	52.2	196	239	99
04170000	01-23-2002	69.5	20.5	2.9	62.7	192	234	111

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Fluoride, wf mg/L	Silica, wf mg/L	Sulfate, wf mg/L	Dissolved iron, µg/L	Dissolved manganese, µg/L	Residue of evaporation @ 180°C, mg/L	Dissolved ammonia + organic N, mg/L as N
04166100	09-18-2001	0.3	10.1	55.9	11	29	624	0.45
04166100	11-15-2001	0.2	6.7	52.4	27	38.6	604	0.32
04166100	01-23-2002	0.4	6.5	57.6	49	64.8	1010	0.28
04166100	03-13-2002	0.2	5.3	55.5	48	81.6	880	0.33
04166100	05-02-2002	0.1	2.8	33.4	40	45.2	465	0.55
04166100	06-05-2002	0.2	7.5	47.3	48	31.1	652	0.52
04166100	07-10-2002	0.4	13.0	55.2	13	43.6	753	0.43
04166100	08-20-2002	0.4	10.6	47.7	13	37.5	592	0.39
04166100	11-11-2002	0.2	7.4	45.5	82	49.5	476	0.45
04166100	12-10-2002	0.4	9.3	69.0	53	51.2	1000	0.25
04166100	01-28-2003	0.4	9.7	73.7	83	81.8	1140	0.21
04166100	01-29-2003	0.3	10.1	73.7	129	87.9	1570	0.24
04166100	02-02-2003	0.3	9.4	84.1	66	174	3880	0.44
04166100	04-30-2003	0.3	1.9	68.5	120	103	903	0.39
04166100	07-22-2003	0.3	9.2	48.9	30	49.8	822	0.51
04166100	08-05-2003	0.4	9.6	46.7	21	50.1	688	0.48
04166100	09-08-2003	0.4	10.7	55.2	16	38.3	738	0.4
04166200	12-10-2002	0.5	7.6	78.4	30	189	3020	0.44
04166200	08-05-2003	0.2	4.6	30.6	23	80.7	391	--
04166200	09-08-2003	0.6	10.8	71.6	24	65.6	1670	0.9
04166315	09-18-2001	0.4	9.9	54.7	10	14	708	0.36
04166315	11-19-2001	0.4	6.7	52.0	38	29.9	612	0.32
04166315	01-23-2002	0.4	6.7	54.9	64	50.4	988	0.38
04166315	03-13-2002	0.3	4.5	49.9	62	66.3	976	0.36
04166315	05-02-2002	0.2	3.1	34.3	46	33.7	618	0.56
04166315	06-05-2002	0.3	7.9	36.7	74	27.2	663	0.52
04166315	07-10-2002	0.5	12.2	52.3	21	28	754	0.47
04166315	08-21-2002	0.4	12.1	49.5	16	18.8	768	0.38
04166315	11-11-2002	0.3	7.3	46.2	77	25.2	463	0.44
04166315	12-10-2002	0.5	10.5	62.2	52	21.7	905	0.43
04166315	01-28-2003	0.4	9.9	56.1	62	39.3	1130	0.5
04166315	02-02-2003	0.4	10.4	63.1	70	72.3	2510	0.6
04166315	04-30-2003	0.4	3.9	63.0	90	63.9	1130	0.51
04166315	05-20-2003	0.3	4.0	52.3	80	55.7	900	0.71
04166315	07-22-2003	0.4	10.0	52.9	21	17.5	863	0.65
04166315	08-05-2003	0.4	9.5	45.0	20	17.9	733	0.46
04166315	09-08-2003	0.5	10.6	46.4	19	13.5	785	0.36
04170000	09-17-2001	0.3	10.3	33.4	44	16.4	495	0.38
04170000	11-19-2001	0.2	6.8	31.0	34	19.7	438	0.39
04170000	01-23-2002	0.3	6.8	31.2	34	25.3	460	0.35

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Total ammonia + organic N, mg/L as N	Dissolved ammonia, mg/L as N	Dissolved nitrite + nitrate, mg/L as N	Dissolved nitrite, mg/L as N	Orthophosphate, mg/L as P	Dissolved phosphorus, mg/L	Total phosphorus, mg/L
04166100	09-18-2001	0.5	<.04	0.5	0.006	E.01	0.026	0.025
04166100	11-15-2001	0.49	<.04	0.47	0.013	<.02	0.01	0.004
04166100	01-23-2002	0.37	E.02	0.61	E.007	<.02	0.007	<.004
04166100	03-13-2002	0.32	<.04	0.73	0.009	<.02	0.007	0.004
04166100	05-02-2002	1.2	0.09	0.48	0.015	<.04	0.013	0.2
04166100	06-05-2002	0.74	0.08	0.48	0.026	<.02	0.019	0.006
04166100	07-10-2002	0.79	0.04	0.42	0.012	0.03	0.045	0.12
04166100	08-20-2002	0.59	0.04	0.49	0.009	0.03	0.039	0.113
04166100	11-11-2002	0.83	0.1	0.33	0.016	<.02	0.007	0.132
04166100	12-10-2002	0.28	<.04	0.37	0.008	<.02	0.006	0.088
04166100	01-28-2003	0.27	E.03	0.39	E.007	<.02	0.008	0.027
04166100	01-29-2003	0.26	E.03	0.39	0.008	<.02	0.009	0.021
04166100	02-02-2003	0.52	0.19	0.51	0.028	<.02	0.008	0.029
04166100	04-30-2003	0.6	<.04	0.11	E.004	<.02	0.014	0.049
04166100	07-22-2003	1	0.07	0.54	0.021	E.01	0.029	0.098
04166100	08-05-2003	0.67	0.06	0.29	0.008	0.02	0.036	0.097
04166100	09-08-2003	0.54	E.04	0.24	E.004	<.18	0.03	0.083
04166200	12-10-2002	0.46	0.07	1.11	0.038	E.01	0.018	0.061
04166200	08-05-2003	--	--	--	--	--	--	--
04166200	09-08-2003	0.94	<.20	0.9	E.022	<.18	0.062	0.099
04166315	09-18-2001	0.4	<.04	1.67	E.004	E.01	0.019	0.01
04166315	11-19-2001	0.42	<.04	1.41	E.005	<.02	0.007	0.006
04166315	01-23-2002	0.45	<.04	2.97	0.01	<.02	0.009	<.004
04166315	03-13-2002	0.33	<.04	1.19	E.006	<.02	0.015	0.005
04166315	05-02-2002	1.3	0.06	0.98	0.021	<.04	0.01	0.19
04166315	06-05-2002	0.62	E.04	1.38	0.023	<.02	0.019	E.002
04166315	07-10-2002	0.72	E.02	1.67	0.012	0.03	0.032	0.08
04166315	08-21-2002	0.44	<.04	1.11	<.008	0.02	0.029	0.054
04166315	11-11-2002	0.63	<.04	1.52	E.007	<.02	0.01	0.057
04166315	12-10-2002	0.48	E.03	5.02	0.022	<.02	0.008	0.016
04166315	01-28-2003	0.52	0.07	7.1	0.045	<.02	0.015	0.03
04166315	02-02-2003	0.63	0.25	4.69	0.053	<.02	0.01	0.025
04166315	04-30-2003	0.67	<.04	1.08	0.011	<.02	0.014	0.033
04166315	05-20-2003	0.92	0.08	1.71	0.036	<.02	0.017	0.064
04166315	07-22-2003	0.8	E.03	2.26	0.011	E.01	0.021	0.039
04166315	08-05-2003	0.52	<.04	2.46	0.01	E.01	0.021	0.039
04166315	09-08-2003	0.45	<.04	3.1	E.005	<.18	0.023	0.038
04170000	09-17-2001	0.44	<.04	0.76	0.011	<.02	0.009	0.017
04170000	11-19-2001	0.6	0.05	0.3	0.008	<.02	0.007	0.006
04170000	01-23-2002	0.4	0.05	0.4	0.011	<.02	0.004	<.004

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Enterococci, mEI colonies/100mL	E. coli, m-TEC, colonies/100mL	E. coli, NA-MUG, colonies/100mL	Fecal coliforms, colonies/100mL
04166100	09-18-2001	--	--	--	--
04166100	11-15-2001	--	--	--	--
04166100	01-23-2002	--	--	--	--
04166100	03-13-2002	--	94	--	--
04166100	05-02-2002	--	4900	--	--
04166100	06-05-2002	--	70	--	--
04166100	07-10-2002	--	--	--	--
04166100	08-20-2002	--	>1000	--	--
04166100	11-11-2002	--	1000	--	--
04166100	12-10-2002	--	--	--	--
04166100	01-28-2003	--	--	--	--
04166100	01-29-2003	--	--	--	--
04166100	02-02-2003	--	430	--	--
04166100	04-30-2003	--	80	--	--
04166100	07-22-2003	--	--	--	--
04166100	08-05-2003	E600	--	E1500	E5400
04166100	09-08-2003	E1380	--	E350	E3300
04166200	12-10-2002	--	--	--	--
04166200	08-05-2003	>1000	--	E25000	E126000
04166200	09-08-2003	E350	--	50	80
04166315	09-18-2001	--	--	--	--
04166315	11-19-2001	--	--	--	--
04166315	01-23-2002	--	--	--	--
04166315	03-13-2002	--	20	--	--
04166315	05-02-2002	--	2600	--	--
04166315	06-05-2002	--	750	--	--
04166315	07-10-2002	--	--	--	--
04166315	08-21-2002	--	160	--	--
04166315	11-11-2002	--	1300	--	--
04166315	12-10-2002	--	--	--	--
04166315	01-28-2003	--	--	--	--
04166315	02-02-2003	--	200	--	--
04166315	04-30-2003	--	130	--	--
04166315	05-20-2003	--	1600	--	--
04166315	07-22-2003	--	--	--	--
04166315	08-05-2003	E1100	--	E1500	E5400
04166315	09-08-2003	E1600	--	E1300	E1400
04170000	09-17-2001	--	--	--	--
04170000	11-19-2001	--	--	--	--
04170000	01-23-2002	--	--	--	--

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Sample time	Discharge, cfs	Redox potential millivolts	Dissolved oxygen, mg/L	pH, standard units	Specific conductance, $\mu\text{S}/\text{cm}$ @ 25°C	Water temperature, degrees C
04170000	03-13-2002	1130	193	--	12.7	8.1	796	4.9
04170000	05-02-2002	845	116	--	11.1	8.2	763	11.0
04170000	06-05-2002	910	78	--	7.6	8.2	749	19.2
04170000	07-08-2002	1425	32	--	--	8.2	775	26.4
04170000	08-20-2002	1200	--	--	8.9	7.8	770	24.1
04170000	11-11-2002	1715	86	169	10.7	7.7	784	8.6
04170000	12-10-2002	1015	54	--	14.3	8.0	847	1.6
04170000	02-02-2003	915	44	--	13.8	7.7	888	0.9
04170000	04-22-2003	1700	88	--	7.4	7.9	832	11.9
04170000	05-01-2003	900	85	--	8.9	7.7	780	15.0
04170000	06-12-2003	1845	93	--	8.5	7.7	791	18.4
04170000	07-22-2003	945	--	--	--	8.0	767	--
04170000	08-05-2003	915	29	302	6.1	7.7	788	21.9
04170000	09-08-2003	945	20	297	6.5	7.7	764	19.6
04170500	09-18-2001	815	483	--	8.4	7.8	719	20.3
04170500	11-19-2001	900	201	--	10.8	7.7	711	9.6
04170500	01-23-2002	900	131	--	13.3	7.5	788	2.3
04170500	03-13-2002	910	224	--	12.6	8.5	813	2.8
04170500	05-02-2002	720	121	--	10	8.3	735	11.6
04170500	06-05-2002	745	75	--	8.9	8.0	691	18.0
04170500	07-08-2002	1535	--	--	--	8.3	682	--
04170500	08-28-2002	800	33	152	7.7	8.0	655	24.2
04170500	12-10-2002	830	64	164	14	7.8	767	1.8
04170500	02-02-2003	830	58	--	15.6	7.6	901	2.8
04170500	05-01-2003	800	71	--	10.1	8.0	732	14.1
04170500	07-22-2003	830	--	--	--	8.2	699	--
04170500	08-05-2003	815	31	271	7.2	8.0	705	24.5
04170500	09-08-2003	845	23	266	8.5	8.0	668	22.6

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Calcium, wf, mg/L	Magnesium, wf mg/L	Potassium, wf mg/L	Sodium, wf mg/L	Alkalinity, wf,i mg/L as CaCO ₃	Bicarbonate, wf, mg/L	Chloride, wf mg/L
04170000	03-13-2002	64.5	18.3	2.6	64.4	194	237	119
04170000	05-02-2002	66.8	19.6	2.6	58.3	260	317	108
04170000	06-05-2002	67.2	19.9	2.9	59.3	206	251	107
04170000	07-08-2002	59.5	21.5	3.3	64.6	190	232	119
04170000	08-20-2002	59.1	22.0	4.7	67.4	168	205	121
04170000	11-11-2002	70.9	22.7	3.6	60.5	201	245	113
04170000	12-10-2002	73.2	22.9	3.5	64.2	196	239	125
04170000	02-02-2003	76.9	23.2	3.6	70	238	290	131
04170000	04-22-2003	74.1	20.6	3.4	70.2	202	246	128
04170000	05-01-2003	74.7	22.0	3.1	64.8	190	232	120
04170000	06-12-2003	72.1	22.5	3.3	67.6	192	234	121
04170000	07-22-2003	61.2	22.2	4.2	66.4	--	--	124
04170000	08-05-2003	64.4	23.0	4.0	64.9	266	325	120
04170000	09-08-2003	61.9	20.3	4.4	66.2	166	203	124
04170500	09-18-2001	40.0	21.0	3.2	68.1	106	129	120
04170500	11-19-2001	63.8	19.3	2.8	50.3	168	205	97
04170500	01-23-2002	69.9	20.7	2.8	59.7	222	271	110
04170500	03-13-2002	62.6	18.6	2.5	69.5	190	232	126
04170500	05-02-2002	60.9	18.8	2.5	55.9	180	220	107
04170500	06-05-2002	59.6	19.7	2.4	54.7	174	212	103
04170500	07-08-2002	46.2	21.1	2.3	59.8	--	--	106
04170500	08-28-2002	41.0	22.0	2.7	62.7	125	153	113
04170500	12-10-2002	65.5	23.7	3.3	55.7	204	246	110
04170500	02-02-2003	79.8	25.5	3.4	71.2	246	300	132
04170500	05-01-2003	64.4	19.6	2.9	67.9	168	205	124
04170500	07-22-2003	48.1	20.9	3.0	64.8	--	--	122
04170500	08-05-2003	46.4	20.3	3.0	67.2	144	176	124
04170500	09-08-2003	40.7	22.6	3.1	65.5	116	133	124

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Fluoride, wf mg/L	Silica, wf mg/L	Sulfate, wf mg/L	Dissolved iron, µg/L	Dissolved manganese, µg/L	Residue of evaporation @ 180°C, mg/L	Dissolved ammonia + organic N, mg/L as N
04170000	03-13-2002	0.2	5.8	28.7	40	15.4	450	0.35
04170000	05-02-2002	0.2	4.7	30.4	55	12.6	446	0.41
04170000	06-05-2002	0.2	5.9	30.1	98	21.2	466	0.43
04170000	07-08-2002	0.5	5.6	32.5	95	17.1	421	0.42
04170000	08-20-2002	0.4	10.9	31.8	66	30	463	0.36
04170000	11-11-2002	0.3	8.3	35.1	34	20.8	457	0.39
04170000	12-10-2002	0.3	8.8	35.4	32	25.7	500	0.39
04170000	02-02-2003	0.3	9.1	35.3	35	37	512	0.39
04170000	04-22-2003	0.2	5.7	41.2	49	21.5	495	0.46
04170000	05-01-2003	0.3	4.8	40.0	47	16.6	471	0.36
04170000	06-12-2003	0.3	4.6	34.1	67	18.2	459	0.48
04170000	07-22-2003	0.7	8.1	30.5	92	28.5	478	0.47
04170000	08-05-2003	0.4	8.9	30.2	65	28.4	486	0.42
04170000	09-08-2003	0.4	9.3	33.1	59	34.1	466	0.36
04170500	09-18-2001	0.2	6.1	28.7	18	4.1	395	0.44
04170500	11-19-2001	0.2	6.1	31.2	22	4.1	442	0.39
04170500	01-23-2002	0.3	5.6	30.9	25	7.7	454	0.34
04170500	03-13-2002	0.2	4.3	29.6	32	4.8	458	0.32
04170500	05-02-2002	0.2	2.8	30.6	23	4.7	432	0.39
04170500	06-05-2002	0.2	1.4	30.8	34	9.6	430	0.44
04170500	07-08-2002	0.2	2.4	28.6	47	11.6	387	0.51
04170500	08-28-2002	0.3	5.7	25.9	17	E2.7	364	0.43
04170500	12-10-2002	0.3	3.5	35.9	24	4.3	447	0.38
04170500	02-02-2003	0.3	4.9	39.3	24	5.3	519	0.33
04170500	05-01-2003	0.2	1.9	37.5	18	3.7	435	0.34
04170500	07-22-2003	0.2	2.6	31.1	27	8.8	443	0.47
04170500	08-05-2003	0.2	3.7	31.0	29	10	468	0.54
04170500	09-08-2003	0.3	5.7	27.6	28	9.3	401	0.42

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Total ammonia + organic N, mg/L as N	Dissolved ammonia, mg/L as N	Dissolved nitrite + nitrate, mg/L as N	Dissolved nitrite, mg/L as N	Orthophosphate, mg/L as P	Dissolved phosphorus, mg/L	Total phosphorus, mg/L
04170000	03-13-2002	0.33	<.04	0.4	E.005	<.02	0.004	E.004
04170000	05-02-2002	0.41	E.02	0.17	<.008	<.04	0.007	E.03
04170000	06-05-2002	0.56	0.04	0.21	E.005	<.02	0.013	<.004
04170000	07-08-2002	0.55	<.04	0.16	E.004	<.02	0.016	E.05
04170000	08-20-2002	0.51	E.03	0.26	E.004	<.02	0.017	0.06
04170000	11-11-2002	0.55	0.1	0.2	0.044	<.02	0.007	0.032
04170000	12-10-2002	0.4	0.08	0.32	0.07	<.02	0.008	0.02
04170000	02-02-2003	0.44	0.1	1.02	0.039	<.02	0.005	0.018
04170000	04-22-2003	0.58	0.07	0.36	E.007	<.02	0.006	0.031
04170000	05-01-2003	0.58	E.03	0.24	E.004	<.02	0.006	0.03
04170000	06-12-2003	0.67	0.06	0.47	0.015	<.02	0.009	0.037
04170000	07-22-2003	0.65	0.07	0.64	0.026	<.02	0.015	0.027
04170000	08-05-2003	0.55	0.06	0.62	0.023	<.02	0.011	0.025
04170000	09-08-2003	0.42	<.41	0.46	E.005	<.18	0.009	0.021
04170500	09-18-2001	0.51	<.04	<.05	<.006	<.02	0.007	0.006
04170500	11-19-2001	0.41	E.04	0.26	0.01	<.02	0.005	0.004
04170500	01-23-2002	0.37	0.05	0.31	E.005	<.02	E.004	<.004
04170500	03-13-2002	0.3	<.04	0.27	E.007	<.02	E.004	E.002
04170500	05-02-2002	0.5	E.03	<.05	<.008	<.04	0.006	<.06
04170500	06-05-2002	0.45	E.03	<.05	<.008	<.02	0.013	<.004
04170500	07-08-2002	0.49	0.04	E.03	<.008	<.02	0.014	<.06
04170500	08-28-2002	0.53	<.04	<.05	<.008	<.02	0.007	0.027
04170500	12-10-2002	0.4	E.04	0.19	0.024	<.02	E.004	0.015
04170500	02-02-2003	0.4	0.06	0.28	0.016	<.02	E.004	0.011
04170500	05-01-2003	0.6	<.04	0.07	E.007	<.02	E.004	0.017
04170500	07-22-2003	0.6	E.04	<.06	<.008	<.02	0.01	0.019
04170500	08-05-2003	0.65	E.02	<.06	<.008	<.02	0.009	0.031
04170500	09-08-2003	0.73	E.03	<.06	<.008	<.18	0.01	0.022

Table 9. Results of synoptic stream-water-quality sample analysis in and around Oakland County, Michigan between September 2001 and September 2003- continued

[mg/L, milligrams per liter; mg/L, micrograms per liter; mS/cm, microsiemens per centimeter; wf, filtered water; mL, milliliter]

Station number	Sample date	Enterococci, mEI colonies/100mL	E. coli, m-TEC, colonies/100mL	E. coli, NA-MUG, colonies/100mL	Fecal coliforms, colonies/100mL
04170000	03-13-2002	--	5	--	--
04170000	05-02-2002	--	16	--	--
04170000	06-05-2002	--	--	--	--
04170000	07-08-2002	--	--	--	--
04170000	08-20-2002	--	A480	--	--
04170000	11-11-2002	--	210	--	--
04170000	12-10-2002	--	--	--	--
04170000	02-02-2003	--	33	--	--
04170000	04-22-2003	--	--	--	--
04170000	05-01-2003	--	--	--	--
04170000	06-12-2003	--	17	--	--
04170000	07-22-2003	--	--	--	--
04170000	08-05-2003	70	--	20	E190
04170000	09-08-2003	35	--	23	33
04170500	09-18-2001	--	--	--	--
04170500	11-19-2001	--	--	--	--
04170500	01-23-2002	--	--	--	--
04170500	03-13-2002	--	0	--	--
04170500	05-02-2002	--	3	--	--
04170500	06-05-2002	--	2	--	--
04170500	07-08-2002	--	--	--	--
04170500	08-28-2002	--	>14	--	--
04170500	12-10-2002	--	--	--	--
04170500	02-02-2003	--	--	--	--
04170500	05-01-2003	--	0	--	--
04170500	07-22-2003	--	--	--	--
04170500	08-05-2003	2	--	3	6
04170500	09-08-2003	13	--	3	3

Table 10. Results of analysis for selected organic compounds at selected sites in Oakland County, Michigan

[All concentrations reported in micrograms per liter; --, not analysed; <, less than; E, estimated, but below minimum reporting level; M, compound confirmed to be present, but not quantifiable]

				1,4-Dichlorobenzene	1-Methylnaphthalene	2,2'4,4'-tetrabromodiphenyl ether	2,6-Dimethylnaphthalene	2-Methylnaphthalene	3,4-dichlorophenyl isocyanate	3-Methyl-1H-indole	3-tert-Butyl-4-hydroxyanisole	4-Cumylyphenol	4-Octylphenol	4-n-Octylphenol	4-Nonylphenol
Filtered samples	04143830	Aug. 21, 2002	1545	<.5	M	--	<.5	M	--	<1	<5	<1	<1	--	<5
	04148035	Aug. 21, 2002	1430	<.5	M	--	<.5	M	--	<1	<5	<1	<1	--	<5
	04160800	Aug. 20, 2002	850	<.5	M	--	M	E.1	--	<1	<5	<1	<1	--	E2
	04160900	Aug. 20, 2002	1130	<.5	M	--	<.5	M	--	<1	<5	<1	<1	--	<5
	04161000	Aug. 28, 2002	1345	<.5	<.5	--	<.5	<.5	--	<1	<5	<1	<1	--	<5
	04161540	Aug. 28, 2002	1230	<.5	<.5	--	<.5	<.5	--	<1	<5	<1	<1	--	<5
	04161810	Aug. 21, 2002	1100	<.5	M	--	<.5	M	--	<1	<5	<1	<1	--	<5
	04166000	Aug. 03, 2002	1030	<.5	<.5	--	<.5	<.5	--	<1	<5	<1	<1	--	E1
	04166100	Aug. 20, 2002	1400	<.5	<.5	--	<.5	<.5	--	<1	<5	<1	<1	--	<5
	04166315	Aug. 21, 2002	815	<.5	M	--	<.5	E.1	--	<1	<5	<1	<1	--	<5
	04170000	Aug. 20, 2002	1200	M	M	--	<.5	E.1	--	<1	<5	<1	<1	--	E1
	04170500	Aug. 28, 2002	800	<.5	<.5	--	<.5	<.5	--	<1	<5	<1	<1	--	<5
Unfiltered samples	04143830	Sept. 09, 2003	900	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04148035	Sept. 09, 2003	1000	--	<.5	<.5	<.5	<.5	M	<1	<5	<1	--	<1	<5
	04160800	Sept. 09, 2003	1130	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04160900	Sept. 08, 2003	1600	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04161000	Sept. 08, 2003	1500	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04161540	Sept. 09, 2003	1245	--	<.5	<.5	<.5	<.5	M	<1	<5	<1	--	<1	<5
	04161580	Sept. 09, 2003	1545	--	<.5	<.5	<.5	<.5	M	<1	<5	<1	--	<1	<5
	04161810	Sept. 09, 2003	1415	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04166000	Sept. 08, 2003	1400	--	<.5	<.5	<.5	<.5	E.2	<1	<5	<1	--	<1	<5
	04166100	Sept. 08, 2003	1045	--	<.5	<.5	<.5	<.5	E.1	<1	<5	<1	--	<1	<5
	04166200	Sept. 08, 2003	1300	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04166315	Sept. 08, 2003	1145	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04170000	Sept. 08, 2003	945	--	<.5	<.5	<.5	<.5	<.5	<1	<5	<1	--	<1	<5
	04170500	Sept. 08, 2003	845	--	M	<.5	<.5	M	<.5	<1	<5	<1	--	<1	<5

Table 10. Results of analysis for selected organic compounds at selected sites in Oakland County, Michigan - continued

[All concentrations reported in micrograms per liter; --, not analysed; <, less than; E, estimated, but below minimum reporting level; M, compound confirmed to be present, but not quantifiable]

			4-tert-Octylphenol	5-Methyl-1H-benzotriazole	9,10Anthraquinone	Acetophenone	acetyl-1-hexamethyl-tetrahydronaphthalene (AHTN)	Anthracene	Anthraquinone	Atrazine	Benzalpyrene	Benzophenone	beta-Sitosterol	beta-Signastanol	bis-(s-ethylhexyl)phthalate
Filtered samples	04143830	Aug. 21, 2002	<1	<2	<.5	<.5	E.1	<.5	--	--	<.5	E.2	<2	<2	--
	04148035	Aug. 21, 2002	<1	<2	<.5	<.5	<.5	M	--	--	M	E.3	<2	<2	--
	04160800	Aug. 20, 2002	<1	<2	<.5	<.5	<.5	<.5	--	--	<.5	E.2	E1	<2	--
	04160900	Aug. 20, 2002	<1	<2	<.5	<.5	<.5	M	--	--	M	E.1	M	<2	--
	04161000	Aug. 28, 2002	<1	<2	<.5	<.5	E.3	<.5	--	--	<.5	E.2	<2	<2	--
	04161540	Aug. 28, 2002	<1	<2	<.5	<.5	<.5	<.5	--	--	<.5	E.1	<2	<2	--
	04161810	Aug. 21, 2002	<1	<2	M	<.5	M	M	--	--	<.5	E.2	<2	<2	--
	04166000	Aug. 03, 2002	<1	<2	<.5	<.5	M	<.5	--	--	<.5	E.2	<2	<2	--
	04166100	Aug. 20, 2002	<1	<2	E.1	<.5	<.5	<.5	--	--	<.5	E.1	<2	<2	--
	04166315	Aug. 21, 2002	<1	<2	M	<.5	<.5	<.5	--	--	<.5	E.2	<2	<2	--
	04170000	Aug. 20, 2002	<1	<2	<.5	<.5	E.1	<.5	--	--	<.5	E.3	E1	<2	--
	04170500	Aug. 28, 2002	<1	<2	<.5	<.5	<.5	<.5	--	--	<.5	E.2	<2	<2	--
Unfiltered samples	04143830	Sept. 09, 2003	<1	<2	--	<.5	E.1	<.5	<.5	<.5	<.5	M	<2	<2	<2
	04148035	Sept. 09, 2003	<1	<2	--	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<2	<2	<2
	04160800	Sept. 09, 2003	M	<2	--	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<2	<2	E2
	04160900	Sept. 08, 2003	M	<2	--	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<2	<2	<2
	04161000	Sept. 08, 2003	M	<2	--	E.1	0.6	<.5	E.1	<.5	<.5	E.1	<2	<2	<2
	04161540	Sept. 09, 2003	M	<2	--	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<2	<2	<2
	04161580	Sept. 09, 2003	<1	<2	--	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<2	<2	<2
	04161810	Sept. 09, 2003	M	<2	--	<.5	E.1	<.5	<.5	<.5	<.5	M	<2	<2	<2
	04166000	Sept. 08, 2003	<1	<2	--	<.5	<.5	<.5	E.1	<.5	<.5	M	<2	<2	<2
	04166100	Sept. 08, 2003	<1	<2	--	<.5	<.5	M	E.1	<.5	<.5	<.5	<2	<2	<2
	04166200	Sept. 08, 2003	M	<2	--	<.5	<.5	M	E.1	<.5	<.5	M	<2	<2	<2
	04166315	Sept. 08, 2003	<1	<2	--	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<2	<2	<2
	04170000	Sept. 08, 2003	M	<2	--	<.5	E.1	<.5	E.1	<.5	<.5	M	<2	<2	<2
	04170500	Sept. 08, 2003	<1	<2	--	<.5	<.5	<.5	M	<.5	<.5	<.5	<2	<2	<2

Table 10. Results of analysis for selected organic compounds at selected sites in Oakland County, Michigan - continued

[All concentrations reported in micrograms per liter; --, not analysed; <, less than; E, estimated, but below minimum reporting level; M, compound confirmed to be present, but not quantifiable]

		Bisphenol	Bromacil	Caffeine	Camphor	Carbaryl	Carbazole	Chlorpyrifos	Cholesterol	Cotinine	Deet	Diazinon	Dichlorvos	Diethoxynonylphenol	
Filtered samples	04143830	Aug. 21, 2002	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1.00	E.1	<.5	--	<5
	04148035	Aug. 21, 2002	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1.00	E.1	<.5	--	<5
	04160800	Aug. 20, 2002	<1	<.5	<.5	<.5	<1	<.5	<.5	E1	<1.00	E.2	<.5	--	M
	04160900	Aug. 20, 2002	<1	<.5	M	<.5	<1	<.5	<.5	M	<1.00	E.1	<.5	--	<5
	04161000	Aug. 28, 2002	M	<.5	M	<.5	<1	<.5	<.5	<2	<1.00	E.1	<.5	--	<5
	04161540	Aug. 28, 2002	<1	<.5	<.5	<.5	<1	<.5	<.5	E1	<1.00	M	<.5	--	<5
	04161810	Aug. 21, 2002	<1	<.5	E.1	<.5	<1	M	<.5	<2	E.0700	E.2	<.5	--	<5
	04166000	Aug. 03, 2002	M	<.5	<.5	M	<1	<.5	<.5	M	<1.00	E.2	<.5	--	M
	04166100	Aug. 20, 2002	<1	<.5	E.3	<.5	<1	<.5	<.5	M	<1.00	E.2	<.5	--	<5
	04166315	Aug. 21, 2002	<1	<.5	E.1	<.5	<1	<.5	<.5	<2	<1.00	E.2	M	--	<5
	04170000	Aug. 20, 2002	<1	<.5	M	<.5	<1	<.5	<.5	E2	<1.00	E.2	<.5	--	M
	04170500	Aug. 28, 2002	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1.00	E.2	<.5	--	<5
Unfiltered samples	04143830	Sept. 09, 2003	<1	<.5	M	<.5	<1	<.5	<.5	<2	<1	E.1	<.5	<1	<5
	04148035	Sept. 09, 2003	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1	M	<.5	<1	<5
	04160800	Sept. 09, 2003	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1	E.1	<.5	<1	<5
	04160900	Sept. 08, 2003	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1	E.1	<.5	<1	<5
	04161000	Sept. 08, 2003	M	<.5	M	<.5	<1	<.5	<.5	<2	<1	E.1	<.5	<1	<5
	04161540	Sept. 09, 2003	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1	M	<.5	<1	<5
	04161580	Sept. 09, 2003	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1	M	<.5	<1	<5
	04161810	Sept. 09, 2003	<1	<.5	M	<.5	<1	<.5	<.5	<2	<1	E.1	<.5	<1	<5
	04166000	Sept. 08, 2003	<1	<.5	E.1	<.5	<1	<.5	<.5	E1	<1	E.1	<.5	<1	<5
	04166100	Sept. 08, 2003	<1	<.5	M	<.5	<1	<.5	<.5	E1	<1	E.1	<.5	<1	<5
	04166200	Sept. 08, 2003	<1	<.5	E.1	<.5	<1	<.5	<.5	E1	<1	E.1	<.5	<1	<5
	04166315	Sept. 08, 2003	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1	M	<.5	<1	<5
	04170000	Sept. 08, 2003	<1	<.5	E.1	E.1	<1	<.5	<.5	<2	<1	E.1	<.5	<1	<5
	04170500	Sept. 08, 2003	<1	<.5	<.5	<.5	<1	<.5	<.5	<2	<1	E.1	<.5	<1	<5

Table 10. Results of analysis for selected organic compounds at selected sites in Oakland County, Michigan - continued

[All concentrations reported in micrograms per liter; --, not analysed; <, less than; E, estimated, but below minimum reporting level; M, compound confirmed to be present, but not quantifiable]

			Diethoxyoctylphenol	Diethyl-phthalate	D-Limonene	Equilenin	Estrone	Ethoxynonylphenol	Ethoxyoctylphenol	Fluoranthene	Hexahydrohexamethylcyclopentabenzopyran (HHCB)	Indole	Isoborneol	Isophorone	Isopropylbenzene
Filtered samples	04143830	Aug. 21, 2002	<1	--	<.5	<5	<5	--	<1	M	M	<.5	<.5	<.5	<.5
	04148035	Aug. 21, 2002	<1	--	<.5	<5	<5	--	<1	M	<.5	<.5	<.5	<.5	<.5
	04160800	Aug. 20, 2002	<1	--	E.1	<5	<5	--	<1	<.5	<.5	<.5	<.5	3.1	<.5
	04160900	Aug. 20, 2002	<1	--	<.5	<5	<5	--	<1	M	<.5	<.5	<.5	<.5	<.5
	04161000	Aug. 28, 2002	<1	--	<.5	<5	<5	--	<1	<.5	M	<.5	<.5	<.5	<.5
	04161540	Aug. 28, 2002	<1	--	<.5	<5	<5	--	<1	<.5	<.5	<.5	<.5	<.5	<.5
	04161810	Aug. 21, 2002	<1	--	<.5	<5	<5	--	<1	M	M	<.5	<.5	<.5	<.5
	04166000	Aug. 03, 2002	<1	--	<.5	<5	<5	--	M	<.5	<.5	E.1	<.5	E.3	<.5
	04166100	Aug. 20, 2002	<1	--	<.5	<5	<5	--	<1	<.5	<.5	<.5	<.5	<.5	<.5
	04166315	Aug. 21, 2002	<1	--	<.5	<5	<5	--	<1	M	<.5	<.5	<.5	<.5	<.5
	04170000	Aug. 20, 2002	<1	--	E.1	<5	<5	--	<1	M	M	<.5	<.5	<.5	M
	04170500	Aug. 28, 2002	<1	--	<.5	<5	<5	--	<1	<.5	<.5	<.5	<.5	<.5	<.5
Unfiltered samples	04143830	Sept. 09, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	M	<.5	<.5	<.5	--
	04148035	Sept. 09, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	<.5	<.5	<.5	<.5	--
	04160800	Sept. 09, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	<.5	<.5	<.5	<.5	--
	04160900	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	<.5	<.5	<.5	<.5	--
	04161000	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	M	E.1	<.5	<.5	<.5	--
	04161540	Sept. 09, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	<.5	<.5	<.5	<.5	--
	04161580	Sept. 09, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	<.5	<.5	<.5	<.5	--
	04161810	Sept. 09, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	M	M	<.5	<.5	<.5	--
	04166000	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	M	<.5	<.5	<.5	<.5	--
	04166100	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	E.1	<.5	<.5	<.5	<.5	--
	04166200	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	E.1	<.5	<.5	<.5	<.5	--
	04166315	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	M	<.5	<.5	<.5	<.5	--
	04170000	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	M	<.5	<.5	<.5	--
	04170500	Sept. 08, 2003	<1	<.5	<.5	<5	<5	<2.00	<1	<.5	<.5	<.5	<.5	<.5	--

Table 10. Results of analysis for selected organic compounds at selected sites in Oakland County, Michigan - continued

[All concentrations reported in micrograms per liter; --, not analysed; <, less than; E, estimated, but below minimum reporting level; M, compound confirmed to be present, but not quantifiable]

		Isoquinoline	Menthol	Metalexyl	Methyl-salicylate	Metolachlor	Naphthalene	p-Cresol	Pentachlorophenol	PhenanthreneL	Tetrachloroethene	Tribromomethane	Tributyl phosphate	Triclosan	
Filtered samples	04143830	Aug. 21, 2002	<.5	<.5	<.5	<.5	E.1	<1	<2	M	<.5	<.5	M	<1	
	04148035	Aug. 21, 2002	<.5	<.5	<.5	<.5	E.1	<1	<2	M	<.5	<.5	M	<1	
	04160800	Aug. 20, 2002	<.5	<.4	<.5	<.5	<.5	E.1	<1	<2	M	<.5	<.5	<.5	<1
	04160900	Aug. 20, 2002	<.5	<.5	<.5	<.5	<.5	E.1	<1	<2	M	<.5	<.5	<.5	<1
	04161000	Aug. 28, 2002	<.5	<.5	<.5	<.5	<.5	<.5	<1	<2	<.5	<.5	<.5	E.1	<1
	04161540	Aug. 28, 2002	<.5	<.5	<.5	<.5	<.5	<.5	<1	<2	<.5	<.5	M	<.5	<1
	04161810	Aug. 21, 2002	<.5	<.5	<.5	<.5	M	E.1	<1	<2	M	<.5	<.5	M	<1
	04166000	Aug. 03, 2002	<.5	<.5	<.5	<.5	<.5	<.5	M	<2	<.5	<.5	<.5	<.5	M
	04166100	Aug. 20, 2002	<.5	<.5	<.5	<.5	<.5	<.5	<1	<2	<.5	<.5	<.5	M	<1
	04166315	Aug. 21, 2002	<.5	<.5	<.5	<.5	<.5	E.1	<1	<2	M	<.5	<.5	M	<1
	04170000	Aug. 20, 2002	<.5	<.4	<.5	<.5	<.5	E.1	<1	<2	M	<.5	<.5	<.5	<1
	04170500	Aug. 28, 2002	<.5	<.5	<.5	<.5	<.5	<.5	<1	<2	<.5	<.5	<.5	<.5	<1
Unfiltered samples	04143830	Sept. 09, 2003	<.5	<.5	<.5	<.5	<.5	--	M	<2	M	<.5	<.5	M	<1
	04148035	Sept. 09, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	<.5	<.5	<.5	<1
	04160800	Sept. 09, 2003	<.5	<.5	<.5	<.5	<.5	--	M	<2	<.5	<.5	<.5	<.5	<1
	04160900	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	<.5	<.5	<.5	<1
	04161000	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	<.5	M	E.1	<1
	04161540	Sept. 09, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	<.5	<.5	<.5	<1
	04161580	Sept. 09, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	<.5	<.5	<.5	<.5	<1
	04161810	Sept. 09, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	<.5	<.5	M	<1
	04166000	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	<.5	<.5	<.5	<1
	04166100	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	<.5	<.5	<.5	<1
	04166200	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	M	E.1	<.5	M	<1
	04166315	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	<.5	<.5	<.5	<.5	<1
	04170000	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	M	<2	<.5	<.5	<.5	<.5	<1
	04170500	Sept. 08, 2003	<.5	<.5	<.5	<.5	<.5	--	<1	<2	<.5	<.5	<.5	<.5	<1

Table 10. Results of analysis for selected organic compounds at selected sites in Oakland County, Michigan - continued

[All concentrations reported in micrograms per liter; --, not analysed; <, less than; E, estimated, but below minimum reporting level; M, compound confirmed to be present, but not quantifiable]

			Triethyl citrate	Triphenyl phosphate	Tris(2-butoxyethyl)phosphate	FYROL-CEF	Chloroethylphosph	FYROL-PCF	Tris(DiChloroisopropyl)phosphate	14-Dichlorobenzene	Isopropylbenzene	Naphthalene
Filtered samples	04143830	Aug. 21, 2002	<.5	M	E.2	M	--	M	--	--	--	--
	04148035	Aug. 21, 2002	<.5	M	<.5	<.5	--	<.5	--	--	--	--
	04160800	Aug. 20, 2002	<.5	M	E.4	E.1	--	<.5	--	--	--	--
	04160900	Aug. 20, 2002	<.5	M	<.5	M	--	<.5	--	--	--	--
	04161000	Aug. 28, 2002	E.1	<.5	E.1	E.1	--	E.1	--	--	--	--
	04161540	Aug. 28, 2002	<.5	<.5	M	<.5	--	<.5	--	--	--	--
	04161810	Aug. 21, 2002	M	M	E.1	E.1	--	E.1	--	--	--	--
	04166000	Aug. 03, 2002	<.5	<.5	E.5	M	--	M	--	--	--	--
	04166100	Aug. 20, 2002	<.5	<.5	1.3	M	--	<.5	--	--	--	--
	04166315	Aug. 21, 2002	<.5	M	0.6	E.1	--	M	--	--	--	--
	04170000	Aug. 20, 2002	<.5	M	E.1	E.1	--	E.1	--	--	--	--
	04170500	Aug. 28, 2002	<.5	<.5	E.1	M	--	M	--	--	--	--
Unfiltered samples	04143830	Sept. 09, 2003	M	<.5	E.2	--	M	--	M	<.5	<.5	<.5
	04148035	Sept. 09, 2003	<.5	<.5	<.5	--	<.5	--	<.5	M	<.5	<.5
	04160800	Sept. 09, 2003	<.5	<.5	<.5	--	<.5	--	<.5	M	<.5	<.5
	04160900	Sept. 08, 2003	<.5	<.5	<.5	--	<.5	--	<.5	<.5	<.5	<.5
	04161000	Sept. 08, 2003	E.1	M	E.3	--	E.1	--	E.1	E.1	<.5	<.5
	04161540	Sept. 09, 2003	<.5	<.5	<.5	--	<.5	--	<.5	M	<.5	<.5
	04161580	Sept. 09, 2003	<.5	<.5	E.2	--	<.5	--	<.5	<.5	<.5	<.5
	04161810	Sept. 09, 2003	M	M	E.2	--	E.1	--	E.1	M	<.5	<.5
	04166000	Sept. 08, 2003	<.5	<.5	E.2	--	M	--	<.5	M	<.5	<.5
	04166100	Sept. 08, 2003	<.5	<.5	E.4	--	<.5	--	M	M	<.5	<.5
	04166200	Sept. 08, 2003	<.5	M	0.5	--	M	--	M	M	<.5	<.5
	04166315	Sept. 08, 2003	<.5	<.5	<.5	--	M	--	M	<.5	<.5	<.5
	04170000	Sept. 08, 2003	<.5	<.5	E.5	--	E.1	--	M	<.5	<.5	<.5
	04170500	Sept. 08, 2003	<.5	<.5	<.5	--	M	--	<.5	<.5	<.5	M

Table 11. Vertical profiles of field-measured physical characteristics of selected lakes in Oakland County, Michigan measured during 2002 and 2003
[mg/L, milligrams per liter; ms/cm, microsiemens per centimeter; °C, degrees Celsius]

Station Number	Station Name	Sample Date	Sampling Time	Sampling depth, in feet	Dissolved oxygen in mg/L	pH standard units	Specific conductance in mS/cm @ 25°C	Water temperature, degrees C
423133083400101	Kent Lake near New Hudson, Mi.	04-09-2002	1031	3	12.6	8.1	732	6.5
			1032	6	12.6	8.1	731	6.5
			1033	9	12.8	8.1	731	6.5
			1034	12	12.7	8.2	730	6.5
			1035	15	12.8	8.2	730	6.5
			1036	18	12.6	8.2	730	6.5
			1037	21	12.8	8.2	730	6.0
			1038	24	12.6	8.2	730	6.0
			1039	27	12.7	8.2	731	6.0
			1040	30	12.7	8.2	733	6.0
423133083400101	Kent Lake near New Hudson, Mi.	08-07-2002	905	3	7.4	8.0	688	25.5
			906	6	7.4	8.0	688	25.5
			907	9	7.2	8.0	688	25.5
			909	12	6.9	8.0	688	25.5
			910	15	1.2	7.5	705	24.5
			912	18	1.0	7.4	711	21.0
			914	21	1.0	7.4	731	16.5
			916	24	1.0	7.4	739	14.0
			917	27	1.0	7.4	753	11.5
			918	30	1.0	7.4	764	10.0
			919	33	1.0	7.3	776	9.5
423332083290301	Wolverine Lake near Oakley Park, Mi.	09-08-2003	1400	3	8.7	8.1	987	22.9
			1401	8	8.3	8.1	990	22.6
			1402	13	8.7	8.1	995	22.3
			1403	18	7.3	7.5	1080	20.7
			1405	23	3.2	7.2	1080	17.7
			1406	28	--	7.3	1030	13.2
			1408	33	3.4	7.4	1010	10.5
			1409	38	2.5	7.4	1000	8.2
			1410	43	2.5	7.4	1000	7.1
			1411	48	2.6	7.4	1000	6.8
			1412	53	3.0	7.4	1000	6.5
			1413	57	2.3	7.4	1010	6.4
423607083252601	Union Lake at Union Lake, Mi. (Southeast basin)	04-09-2002	1450	3	13.6	8.2	675	4.5
			1451	6	13.5	8.2	675	4.5
			1452	10	13.3	8.2	675	4.5
			1453	15	13.3	8.2	676	4.5
			1454	20	13.3	8.2	676	4.5
			1455	25	13.2	8.2	676	4.5
			1456	30	13.2	8.2	676	4.5
			1457	35	13.2	8.2	676	4.5
			1458	40	13.2	8.2	676	4.5
			1459	45	13.2	8.2	677	4.5
423607083252601	Union Lake at Union Lake, Mi. (Southeast basin)	08-06-2002	1311	3	6.8	8.4	672	26.0
			1313	9	6.7	8.4	673	26.0
			1314	15	6.7	8.3	673	25.0
			1316	21	7.0	8.0	669	18.5
			1317	27	6.4	7.9	671	14.5
			1318	30	4.8	7.7	675	13.5
			1319	33	3.9	7.6	676	13.0
			1321	36	3.3	7.6	678	12.5
			1322	39	2.4	7.5	681	12.0
			1323	42	1.8	7.5	683	11.2
			1324	45	1.7	7.5	685	10.6
			1325	48	1.6	7.5	688	10.0
			1326	54	1.6	7.4	699	9.5
			1327	57	1.6	7.4	702	9.0

Table 11. Vertical profiles of field-measured physical characteristics of selected lakes in Oakland County, Michigan measured during 2002 and 2003 - cont'd.
 [mg/L, milligrams per liter; ms/cm, microsiemens per centimeter; °C, degrees Celsius]

Station Number	Station Name	Sample Date	Sampling Time	Sampling depth, in feet	Dissolved oxygen in mg/L	pH standard units	Specific conductance in mS/cm @ 25°C	Water temperature, degrees C
423609083263001	Union Lake at Union Lake, Mi. (Southwest basin)	04-29-2002	1536	3	13.9	8.2	676	4.5
			1537	6	13.3	8.2	677	4.5
			1538	9	13.4	8.2	677	4.5
			1539	12	13.4	8.2	677	4.5
			1541	15	13.3	8.2	677	4.5
			1542	18	13.2	8.2	677	4.5
			1543	21	13.2	8.2	677	4.5
			1544	25	13.2	8.2	677	4.5
			1546	28	13.2	8.2	677	4.5
			1547	32	13.2	8.2	677	4.5
			1548	35	13.2	8.2	677	4.5
			1549	40	13.2	8.2	677	4.5
			1551	45	13.2	8.2	677	4.5
			1552	50	13.2	8.2	677	4.5
			1553	55	13.2	8.2	677	4.5
			1554	60	13.0	8.2	677	4.5
423609083263001	Union Lake at Union Lake, Mi. (Southwest basin)	08-06-2002	1355	3	6.3	8.3	676	26.0
			1357	9	6.1	8.3	675	25.5
			1358	15	6.1	8.3	676	25.0
			1359	24	5.3	7.7	675	15.5
			1400	27	4.8	7.7	676	14.0
			1401	30	4.8	7.7	675	13.0
			1402	33	4.5	7.7	677	12.0
			1403	36	4.5	7.7	679	11.0
			1404	39	4.8	7.7	680	10.0
			1406	42	5.3	7.7	682	9.0
			1407	45	5.5	7.7	682	8.5
			1409	48	5.6	7.7	685	7.0
			1410	51	5.8	7.7	688	7.0
			1411	57	4.6	7.6	693	6.5
			1412	61	4.0	7.5	695	6.5
423626083260201	Union Lake at Union Lake, Mi. (Central basin)	04-09-2002	1310	3	14.0	8.3	674	4.0
			1311	6	13.7	8.2	676	4.0
			1312	9	13.6	8.2	676	4.0
			1313	12	13.8	8.2	676	4.0
			1314	15	13.6	8.2	676	4.0
			1316	18	13.6	8.2	677	4.0
			1317	21	13.5	8.2	676	4.0
			1321	35	13.5	8.2	677	4.0
			1322	38	13.5	8.2	677	4.0
			1323	41	13.5	8.2	677	4.0
			1324	44	13.5	8.2	677	4.0
			1326	48	13.5	8.2	677	4.0
			1328	52	13.5	8.2	677	4.0
			1329	55	13.5	8.2	677	4.0
			1331	60	13.5	8.2	677	4.0
			1332	63	13.5	8.2	677	4.0
			1333	67	13.5	8.2	677	4.0
			1334	70	13.5	8.2	678	4.0
			1335	75	13.5	8.2	678	4.0
			1336	78	13.5	8.2	677	4.0
			1337	82	13.4	8.2	677	4.0
			1338	86	13.5	8.2	677	4.0
			1339	90	13.4	8.2	678	4.1
			1340	93	13.4	8.2	677	4.0
			1341	96	13.1	8.2	678	4.0

Table 11. Vertical profiles of field-measured physical characteristics of selected lakes in Oakland County, Michigan measured during 2002 and 2003 - cont'd.
 [mg/L, milligrams per liter; ms/cm, microsiemens per centimeter; °C, degrees Celsius]

Station Number	Station Name	Sample Date	Sampling Time	Sampling depth, in feet	Dissolved oxygen in mg/L	pH standard units	Specific conductance in mS/cm @ 25°C	Water temperature, degrees C
423626083260201	Union Lake at Union Lake, Mi. (Central basin)	08-06-2002	1222	3	7.4	8.3	673	26.5
			1223	10	7.2	8.3	673	26.5
			1226	20	8.4	8.2	665	21.5
			1227	30	7.7	7.9	669	14.5
			1228	33	7.2	7.9	671	12.5
			1229	36	7.0	7.9	672	12.0
			1231	39	6.8	7.8	673	11.5
			1232	42	6.6	7.8	674	10.5
			1233	45	6.7	7.8	675	10.0
			1234	48	6.9	7.8	676	9.0
			1235	51	7.1	7.8	676	9.0
			1236	54	7.0	7.8	677	8.5
			1237	57	7.0	7.8	677	8.0
			1238	60	7.0	7.8	678	7.5
			1239	70	6.9	7.7	679	7.0
			1241	80	6.8	7.7	680	6.5
			1242	90	6.3	7.7	681	6.0
			1243	100	5.7	7.6	683	6.0
423730083363401	Lower Pettibone Lake near Highland, Mi.	04-17-2002	852	3	10.2	8.2	683	16.5
			853	7	11.5	8.2	684	12.0
			854	11	12.7	8.2	690	8.5
			856	15	12.5	8.1	693	7.5
			857	19	12.3	8.1	694	6.5
			858	23	12.0	8.0	695	6.0
			859	27	11.7	8.0	695	6.0
			901	31	11.4	8.0	695	5.5
			902	35	11.3	7.9	696	5.5
			903	39	6.3	7.8	728	5.5
423730083363401	Lower Pettibone Lake near Highland, Mi.	08-06-2002	840	3	7.3	7.4	627	26.0
			841	6	7.7	8.1	628	26.0
			842	9	7.6	8.1	627	26.0
			843	12	7.8	7.8	648	25.0
			844	15	11.7	7.8	629	22.0
			846	18	12.8	7.9	626	18.0
			847	21	12.9	8.0	637	14.5
			849	24	12.6	8.0	654	12.0
			851	27	10.1	7.8	676	9.5
			852	30	3.6	7.5	684	8.5
			854	33	2.2	7.4	690	7.5
			856	36	1.8	7.4	703	7.0
424306083314201	Big Lake at Andersonville, Mi.	04-15-2002	1437	0.5	11.3	8.3	329	16.0
			1438	1	11.2	8.3	329	16.0
			1439	1.5	11.1	8.3	330	16.0
			1441	2	11.1	8.4	329	15.5
			1442	2.5	11.1	8.4	330	15.5
			1443	3	11.2	8.4	329	15.5
			1444	3.5	11.3	8.4	329	15.5
			1446	4	11.3	8.4	330	15.0
			1448	4.5	15.0	7.6	405	15.0
424306083314201	Big Lake at Andersonville, Mi.	08-07-2002	1424	0.3	8.9	8.5	292	24.0
			1425	0.6	8.7	8.5	292	24.0
			1426	0.9	8.6	8.5	292	24.5
			1427	1.2	8.4	8.5	292	24.4
			1429	1.5	8.2	8.5	292	24.5
			1430	1.8	8.2	8.5	293	24.5
			1431	2.1	7.7	8.4	293	24.5
			1432	2.4	3.3	8.0	298	24.5

Table 11. Vertical profiles of field-measured physical characteristics of selected lakes in Oakland County, Michigan measured during 2002 and 2003 - cont'd.
 [mg/L, milligrams per liter; ms/cm, microsiemens per centimeter; °C, degrees Celsius]

Station Number	Station Name	Sample Date	Sampling Time	Sampling depth, in feet	Dissolved oxygen in mg/L	pH standard units	Specific conductance in mS/cm @ 25°C	Water temperature, degrees C
424313083312001	Big Lake at Andersonville, Mi.	04-15-2002	1402	3	10.8	8.3	333	15.0
			1403	4	10.9	8.3	333	15.0
			1405	5	10.9	8.3	333	15.0
			1406	6	10.9	8.3	333	15.0
			1407	7	10.6	8.3	334	14.0
			1408	8	10.6	8.2	335	12.0
			1409	9	10.7	8.2	336	12.0
			1410	10	10.7	8.2	335	11.5
			1411	11	10.6	8.1	336	11.5
			1412	12	10.4	7.9	359	11.5
424313083312001	Big Lake at Andersonville, Mi.	08-07-2002	1347	3	8.6	8.4	291	25.0
			1348	3.7	8.6	8.4	291	25.0
			1349	4.4	8.5	8.4	291	25.0
			1350	5.1	8.5	8.4	291	25.0
			1351	5.8	8.5	8.4	291	25.0
			1352	6.5	8.5	8.4	291	25.0
			1353	7.2	8.5	8.4	291	25.0
			1354	7.9	8.6	8.5	291	25.0
			1355	8.6	8.6	8.5	291	24.5
			1356	9.3	8.8	8.5	290	24.5
424335083405201	Tiptico Lake near Rose Center, Mi.	09-08-2003	1025	3	8.2	8.0	194	22.6
			1026	4.5	8.1	8.0	194	22.6
			1027	6	8.0	8.0	193	22.6
			1028	7.5	8.2	8.0	193	22.5
			1029	9	8.2	8.1	194	22.5
			1030	10.5	8.0	8.0	194	22.3
			1031	12	7.7	8.0	194	22.1
			1032	13.5	7.2	7.8	194	21.9
			1033	15	6.3	7.6	194	21.8
			1034	16.5	5.5	7.3	195	21.7
			1035	18	4.2	7.3	195	21.6
			1036	19	2.4	7.0	225	21.4
424634083143601	Lake Orion near Lake Orion, Mi.	09-09-2003	735	3	7.8	7.7	545	22.7
			836	8	7.9	7.7	545	22.7
			837	13	7.8	7.7	545	22.6
			838	18	5.4	7.4	554	20.7
			839	23	7.1	7.3	560	14.6
			840	28	7.4	7.4	554	10.0
			841	33	6.3	7.3	553	7.4
			842	38	4.2	7.3	553	6.2
			843	43	1.9	7.2	557	5.5
			844	48	1.0	7.2	562	5.2
			845	53	0.8	7.3	571	5.1
424804083311301	Valley Lake near Davisburg, Mi.	09-10-2003	815	3	8.2	7.7	388	22.3
			817	7	7.7	7.7	389	22.3
			819	11	7.2	7.6	389	21.9
			821	15	6.6	7.5	400	20.4
			823	19	8.9	7.5	436	14.0
			825	23	2.9	7.3	449	10.3
			827	27	1.2	7.2	472	7.8
			829	31	0.8	7.2	498	6.3
			831	35	0.8	7.2	506	6.0
			833	39	0.7	7.2	529	5.6
			835	43	0.6	7.0	543	5.4
			837	44	0.6	7.0	557	5.5

Table 11. Vertical profiles of field-measured physical characteristics of selected lakes in Oakland County, Michigan measured during 2002 and 2003 - cont'd.
 [mg/L, milligrams per liter; ms/cm, microsiemens per centimeter; °C, degrees Celsius]

Station Number	Station Name	Sample Date	Sampling depth, in feet	Dissolved oxygen in mg/L	pH standard units	Specific conductance in mS/cm @ 25°C	Water temperature, degrees C	
424828083400201	Dickinson Lake near Holly, Mi.	09-10-2003	1220	3	8.3	7.8	505	23.0
			1222	8	8.2	7.8	502	22.9
			1224	13	8.3	7.8	503	22.8
			1226	18	9.8	7.8	504	21.4
			1228	23	11.1	7.8	512	13.1
			1230	28	9.0	7.7	514	9.1
			1232	33	4.8	7.5	519	6.9
			1234	38	1.6	7.3	524	5.8
			1236	43	1.0	7.4	523	5.8
			1238	48	0.9	7.4	525	5.7
			1240	53	0.9	7.4	528	5.5
			1242	58	0.8	7.4	529	5.5
			1244	63	0.8	7.3	534	5.5
424830083311801	Heron Lake near Holly, Mi.	04-15-2003	1042	3	13.3	8.1	400	9.5
			1044	6	12.3	8.1	401	9.0
			1045	9	12.2	8.1	400	9.0
			1046	12	12.1	8.1	400	9.0
			1047	15	12.1	8.1	400	9.0
			1049	18	12.2	8.1	400	8.5
			1051	21	12.2	8.1	400	8.0
			1052	24	11.9	8.0	400	4.5
			1053	27	11.8	8.0	401	4.5
			1054	30	11.5	7.9	402	4.5
			1055	33	11.4	7.9	401	4.5
			1056	36	11.1	7.9	402	4.5
			1057	39	10.5	7.8	416	4.5
424830083311801	Heron Lake near Holly, Mi.	08-21-2003	1141	3	9.1		371	26.0
			1143	7	9.2		371	26.0
			1145	11	8.6		372	26.0
			1147	15	0.7		443	24.0
			1149	19	0.3		417	14.5
			1152	23	0.3		455	14.5
			1158	25	0.5		497	6.5
			1154	27	0.3		463	11.0
			1156	31	0.3		471	8.0
			1200	38	0.6		586	6.5
424830083311801	Heron Lake near Holly, Mi.	09-10-2003	1025	3	7.4	8.1	420	22.5
			1027	6	7.4	8.1	420	22.5
			1029	9	7.3	8.1	420	22.5
			1031	12	6.8	8.1	421	22.5
			1033	15	4.3	7.7	426	22.5
			1035	18	1.2	7.2	434	22.5
			1037	21	0.6	6.9	500	18.5
			1039	24	0.6	7.0	485	15.0
			1041	28	0.5	7.1	488	11.0
			1043	32	0.5	7.1	491	8.5
			1045	36	0.5	7.2	523	7.0
			1047	40	0.5	6.9	587	6.5
424952083084301	Lakeville Lake near Lakeville, Mi.	09-09-2003	1205	3	9.0	8.3	383	22.8
			1206	8	8.3	6.3	384	22.4
			1208	13	7.7	8.2	388	21.8
			1212	16	5.5	7.3	485	20.0
			1210	18	6.7	7.3	488	17.1
			1215	23	8.2	7.4	490	11.4
			1217	28	5.4	7.3	514	8.3
			1219	33	1.5	7.2	530	6.8
			1221	38	0.9	7.3	535	5.7
			1223	43	0.7	7.3	543	5.3
			1225	48	0.6	7.3	544	5.1
			1227	53	0.6	7.2	554	4.8
			1229	55.5	0.6	7.2	560	4.8

Table 12. Results of chemical water-quality analyses for selected parameters at selected lakes in Oakland County, Michigan, 2002 - 2003
[$\mu\text{s}/\text{cm}$, microsiemens per centimeter @ 25°C ; mg/L, milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter]

Site Number	Lake Name	Sample Date	Position in water column	Time sampled	Sampling depth in feet	Transparency, Secchi disk, in meters	Hardness, mg/L as CaCO ₃	Calcium, mg/L	Magnesium, mg/L	Potassium, mg/L	Total sodium, mg/L	Dissolved sodium, mg/L	Acid neutralizing capacity, mg/L as CaCO ₃
423133083400105	Kent Lake near New Hudson	04-09-2002	3 feet below surface	1045	3	2.4	240	63.5	20.2	2.4	60	181	
			Mid-level/thermocline	1050	15								
			Whole water column	1015	16								
			3 ft off bottom	1055	27								
423133083400105	Kent Lake near New Hudson	08-07-2002	3 feet below surface	920	3	1.4	54.6	23.1	1.9	147	147	147	
			Whole water column	855	9								
			Mid-level/thermocline	925	17								
			3 ft off bottom	930	33								
423332083290305	Wolverine Lake near Oakley Park	09-08-2003	3 feet below surface	1415	3	6.1	200	46.6	21.1	2.4	60	144	
			Mid-level/thermocline	1420	20								
			Whole water column	1410	40								
			3 ft off bottom	1425	55								
423607083252605	Union Lake at Union Lake	04-09-2002	3 feet below surface	1510	3	6.7	54.6	23.1	1.9	147	147	147	
			Whole water column	1515	25								
			Mid-level/thermocline	1445	44								
			3 ft off bottom	1525	48								
423607083252605	Union Lake at Union Lake	08-06-2002	3 feet below surface	1330	3	3.4	200	46.6	21.1	2.4	60	144	
			Whole water column	1315	22								
			Mid-level/thermocline	1335	33								
			3 ft off bottom	1340	57								
423609083263005	Union Lake at Union Lake	04-09-2002	3 feet below surface	1600	3	7.9	54.6	23.1	1.9	147	147	147	
			Whole water column	1605	30								
			Mid-level/thermocline	1530	52								
			3 ft off bottom	1610	57								
423609083263005	Union Lake at Union Lake	08-06-2002	3 feet below surface	1420	3	2.7	200	46.6	20.4	2.3	59	144	
			Whole water column	1345	18								
			Mid-level/thermocline	1425	35								
			3 ft off bottom	1430	62								
423626083260205	Union Lake at Union Lake	04-09-2002	3 feet below surface	1345	3	8.5	54.6	23.1	1.9	147	147	147	
			Mid-level/thermocline	1350	50								
			Whole water column	1315	56								
			3 ft off bottom	1355	98								
423626083260205	Union Lake at Union Lake	08-06-2002	3 feet below surface	1245	3	3.4	200	47.2	20.9	2.5	61	143	
			Whole water column	1225	22								
			Mid-level/thermocline	1250	50								
			3 ft off bottom	1255	106								
423730083363405	Lower Pettibone Lake near Highland	04-17-2002	3 feet below surface	850	3	3	250	66	20.6	1.6	50	199	
			Whole water column	845	20								
			Mid-level/thermocline	855	20								
			3 ft off bottom	900	36								
423730083363405	Lower Pettibone Lake near Highland	08-06-2002	3 feet below surface	900	3	4.3	200	46.6	20.4	2.3	59	144	
			Mid-level/thermocline	905	21								
			Whole water column	840	28								
			3 ft off bottom	910	36								
424306083314206	Big Lake at Andersonville	04-15-2002	Mid-level/thermocline	1455	3	1.5	140	40.8	9.5	1.3	12	95	
			Whole water column	1440	4								
			3 feet below surface	1450									
424306083314205	Big Lake at Andersonville	08-07-2002	3 feet below surface	1455	2	0.9	140	39.3	9.1	1.2	10	95	
			Mid-level/thermocline	1455	2								
			Whole water column	1425	3								
424313083312005	Big Lake at Andersonville	04-15-2002	3 feet below surface	1400	3	2.7	140	39.3	9.1	1.2	10	95	
			Mid-level/thermocline	1405	6								
			3 ft off bottom	1410	10								
			Whole water column	1350	10								
424313083312005	Big Lake at Andersonville	08-07-2002	3 feet below surface	1405	3	1.1	140	39.3	9.1	1.2	10	95	
			Whole water column	1400	7								
			Mid-level/thermocline	1410	7								
			3 ft off bottom	1415	10								

Table 12. Results of chemical water-quality analyses for selected parameters at selected lakes in Oakland County, Michigan, 2002 - 2003, continued
[$\mu\text{s}/\text{cm}$, microsiemens per centimeter @ 25°C ; mg/L, milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter]

Site Number	Lake Name	Sample Date	Position in water column	Chloride, mg/L	Sulfate, dissolved, mg/L	Sulfate, total, mg/L	Ammonia + organic nitrogen, total, mg/L as N	Ammonia, total, mg/L as N	Nitrite + nitrate, dissolved, mg/L as N	Nitrite + nitrate, total, mg/L as N	Phosphorus, total, mg/L	Chlorophyll a, mg/L
423133083400105	Kent Lake near New Hudson	04-09-2002	3 feet below surface Mid-level/thermocline Whole water column 3 ft off bottom	117	25	0.17 0.22 0.21	0.03 0.03	0.145 0.144	0.02 0.02			
423133083400105	Kent Lake near New Hudson	08-07-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom			0.45 0.49 0.89	0.03 0.07 0.63	<.010 <.010 <.010	0.03 0.04 0.05			
423332083290305	Wolverine Lake near Oakley Park	09-08-2003	3 feet below surface Mid-level/thermocline Whole water column 3 ft off bottom	263	32.2	0.39 0.41	<.01 <.01	<.022 <.022	<.04 <.04			
423607083252605	Union Lake at Union Lake	04-09-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom	118	20	0.09 0.11	0.05 0.06	0.083 0.084	0.01 0.01			
423607083252605	Union Lake at Union Lake	08-06-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom			0.40 0.32 1.30	0.03 0.13 0.96	<.010 0.013 <.010	0.01 0.01 0.03			
423609083263005	Union Lake at Union Lake	04-09-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom	119	21	0.15 <.10	0.05	0.081 0.083	0.01 0.01			
423609083263005	Union Lake at Union Lake	08-06-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom			0.34 0.39 0.50	0.03 0.12 0.34	<.010 0.012 0.032	0.01 0.01 0.01			
423626083260205	Union Lake at Union Lake	04-09-2002	3 feet below surface Mid-level/thermocline Whole water column 3 ft off bottom	119	21	<.10 0.11	0.05 0.05	0.087 0.082	0.01 0.01			
423626083260205	Union Lake at Union Lake	08-06-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom			0.32 0.38 0.40	0.04 0.10 0.22	<.010 0.044 0.087	0.01 0.01 0.01			
423730083363405	Lower Pettibone Lake near Highland	04-17-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom	96	12	0.15 <.10 <.10	0.02 0.01 0.04	0.327 0.353 0.346	0.01 0.01 0.01			
423730083363405	Lower Pettibone Lake near Highland	08-06-2002	3 feet below surface Mid-level/thermocline Whole water column 3 ft off bottom			0.18 0.17 0.53	0.04 0.07 0.23	0.015 <.010 0.015	0.01 0.01 0.05			
424306083314206	Big Lake at Andersonville	04-15-2002	Mid-level/thermocline Whole water column 3 feet below surface	32	6	0.42	0.02	0.168	0.02	<1.00	7	
424306083314205	Big Lake at Andersonville	08-07-2002	3 feet below surface Mid-level/thermocline Whole water column			0.79	0.03	<.010	0.02	5		
424313083312005	Big Lake at Andersonville	04-15-2002	3 feet below surface Mid-level/thermocline 3 ft off bottom Whole water column	33	5	0.39 0.42 0.43	0.04 0.03 0.04	0.170 0.167 0.166	0.01 0.01 0.01	4 5 <1.00 <1.00		
424313083312005	Big Lake at Andersonville	08-07-2002	3 feet below surface Whole water column Mid-level/thermocline 3 ft off bottom			0.87 0.91 0.84	0.03 0.04 0.04	<.010 <.010 <.010	0.03 0.04 0.03	2 2 2		

Table 12. Results of chemical water-quality analyses for selected parameters at selected lakes in Oakland County, Michigan, 2002 - 2003, continued
[$\mu\text{s}/\text{cm}$, microsiemens per centimeter @ 25°C ; mg/L, milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter]

Site Number	Lake Name	Sample Date	Position in water column	Time sampled	Sampling depth in feet	Transparency, Secchi disk, in meters	Hardness, mg/L as CaCO ₃	Calcium, mg/L	Magnesium, mg/L	Potassium, mg/L	Total sodium, mg/L	Dissolved sodium, mg/L	Acid neutralizing capacity, mg/L as CaCO ₃
424335083405205	Tippecanoe Lake near Rose Center	09-08-2003	3 feet below surface	1015	3	3.05							
			Mid-level/thermocline	1020	12								
			3 ft off bottom	1025	17								
			Whole water column	1010	20								
424634083143605	Lake Orion near Lake Orion	09-09-2003	3 feet below surface	900	3	4.27							
			Mid-level/thermocline	905	18								
			Whole water column	855	28								
			3 ft off bottom	910	50								
424804083311305	Valley Lake near Davisburg	09-10-2003	3 feet below surface	845	3	4.57							
			Mid-level/thermocline	850	17								
			Whole water column	840	30								
			3 ft off bottom	855	43								
424828083400205	Dickinson Lake near Holly	09-10-2003	3 feet below surface	1205	3	3.05							
			Whole water column	1200	20								
			Mid-level/thermocline	1210	20								
			3 ft off bottom	1215	61								
424830083311805	Heron Lake near Holly	04-15-2003	3 feet below surface	1030	3	3.4							
			Mid-level/thermocline	1035	20		200	42	24	1.5	17		153
			Whole water column	1025	22								
			3 ft off bottom	1040	39								
424830083311805	Heron Lake near Holly	08-21-2003	3 feet below surface	1130	3	3.2							
			Mid-level/thermocline	1135	18								
			Whole water column	1125	21								
			3 ft off bottom	1140	36								
424952083084305	Lakeville Lake near Lakeville	09-09-2003	3 feet below surface	1250	3	4.57							
			Mid-level/thermocline	1255	17								
			Whole water column	1245	30								
			3 ft off bottom	1300	54								

Table 12. Results of chemical water-quality analyses for selected parameters at selected lakes in Oakland County, Michigan, 2002 - 2003, continued
[$\mu\text{s}/\text{cm}$, microsiemens per centimeter @ 25°C ; mg/L, milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter]

Site Number	Lake Name	Sample Date	Position in water column	Chloride, mg/L	Sulfate, dissolved, mg/L	Sulfate, total, mg/L	Ammonia + organic nitrogen, total, mg/L as N	Ammonia, total, mg/L as N	Nitrite + nitrate, dissolved, mg/L as N	Nitrite + nitrate, total, mg/L as N	Phosphorus, total, mg/L	Chlorophyll a, mg/L
424335083405205	Tippecanoe Lake near Rose Center	09-08-2003	3 feet below surface				0.72	<.01	<.022	<.022	<.04	11
			Mid-level/thermocline	23.3	5.1		0.72	<.01	<.022	<.022	<.04	
			3 ft off bottom				0.64	<.01	<.022	<.022	<.04	
			Whole water column									5
424634083143605	Lake Orion near Lake Orion	09-09-2003	3 feet below surface				0.57	<.01	<.022	<.022	<.04	
			Mid-level/thermocline	66	32.5		0.59	<.01	<.022	<.022	<.04	3.1
			Whole water column				0.60	0.14	0.088		<.04	
			3 ft off bottom									
424804083311305	Valley Lake near Davisburg	09-10-2003	3 feet below surface				0.77	<.01	<.022	<.022	<.04	
			Mid-level/thermocline	38.5	15		0.67	0.02	<.022	<.022	<.04	
424828083400205	Dickinson Lake near Holly	09-10-2003	3 feet below surface				2.10	1.14	<.022	E.04	7.7	
			Whole water column				0.43	0.03	0.231		<.04	
			Mid-level/thermocline	49.8	31.2		0.55	0.06	0.238		<.04	
			3 ft off bottom				1.40	0.77	<.022		<.04	
424830083311805	Heron Lake near Holly	04-15-2003	3 feet below surface				1.20	0.07		0.081	0.01	
			Mid-level/thermocline	46	8		1.80	0.07		0.083	0.01	
			Whole water column				0.49	0.02		0.456	0.01	
			3 ft off bottom									
424830083311805	Heron Lake near Holly	08-21-2003	3 feet below surface				1.30	0.04		<.010	0.01	
			Mid-level/thermocline				1.40	0.05		<.010	0.02	
			Whole water column				1.90	E.43		<.010	0.04	
424952083084305	Lakeville Lake near Lakeville	09-09-2003	3 feet below surface				0.45	<.01	<.022		<.04	
			Mid-level/thermocline	39.9	25.6		0.51	<.01	<.022		<.04	
			Whole water column				1.20	0.60	<.022		E.03	
			3 ft off bottom									

Table 13. Results of ecological assessment at selected river-channel locations in Oakland County, Michigan, September 2003

Station number	Habitat	Individual organisms	Taxa	Mayfly taxa (Ephemeroptera)	Caddisfly taxa (Trichoptera)	Stonefly taxa (plecoptera)	Percent Mayfly	Percent Caddisfly	Percent dominant taxon	Percent isopods, snails, leeches	Percent surface dependent
04143830	139	156	20	1	3	1	2%	9%	22%	8%	24%
04148035	136	70	19	2	1	0	9%	4%	14%	13%	56%
04160800	137	122	14	1	2	0	1%	25%	39%	16%	10%
04160900	108	110	13	0	2	0	0%	10%	26%	20%	19%
04161000	95	123	16	1	1	0	8%	34%	34%	6%	4%
04161540	97	46	11	2	3	0	9%	57%	52%	0%	4%
04161580	163	105	20	0	1	1	0%	3%	29%	7%	11%
04161810	82	86	11	0	1	0	0%	19%	52%	8%	1%
04166000	111	208	17	1	2	0	1%	31%	17%	15%	19%
04166100	109	45	11	0	1	0	0%	2%	33%	29%	11%
04166200	89	54	10	0	1	0	0%	2%	56%	13%	6%
04166315	137	62	18	2	1	0	4%	8%	21%	6%	47%
04170000	136	104	21	3	1	0	4%	1%	32%	15%	7%
04170500	148	138	11	0	1	0	0%	7%	28%	33%	11%

